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U.S. Department
of Transportation
**Federal Aviation
Administration**

# Federal Aviation Regulations

## Revised Part 91
## General Operating and Flight Rules

Effective
August 18, 1990

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## Introductory Note

Part 91, adopted August 7, 1989, and effective August 18, 1990, is codified under Subchapter F, Air Traffic and General Operating Rules, of Title 14 of the CODE OF FEDERAL REGULATIONS.

This revised Part 91 was published as Part III in the FEDERAL REGISTER on August 18, 1989 (54 FR 34284).

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# Part 91—General Operating and Flight Rules

## Subpart A—General

### § 91.1 Applicability.

(a) Except as provided in paragraph (b) of this section and § 91.703, this part prescribes rules governing the operation of aircraft (other than moored balloons, kites, unmanned rockets, and unmanned free balloons, which are governed by Part 101 of this chapter, and ultralight vehicles operated in accordance with Part 103 of this chapter) within the United States, including the waters within 3 nautical miles of the U.S. coast.

(b) Each person operating an aircraft in the airspace overlying the waters between 3 and 12 nautical miles from the coast of the United States shall comply with §§ 91.1 through 91.21; 91.101 through 91.143; 91.151 through 91.159; 91.167 through 91.193; 91.203; 91.205; 91.209 through 91.217; 91.221; 91.303 through 91.319; 91.323; 91.605; 91.609; 91.703 through 91.715; and 91.903.

### § 91.3 Responsibility and authority of the pilot in command.

(a) The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft.

(b) In an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule of this part to the extent required to meet that emergency.

(c) Each pilot in command who deviates from a rule under paragraph (b) of this section shall, upon the request of the Administrator, send a written report of that deviation to the Administrator.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### § 91.5 Pilot in command of aircraft requiring more than one required pilot.

No person may operate an aircraft that is type certificated for more than one required pilot flight crewmember unless the pilot in command meets the requirements of § 61.58 of this chapter.

### § 91.7 Civil aircraft airworthiness.

(a) No person may operate a civil aircraft unless it is in an airworthy condition.

(b) The pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight. The pilot in command shall discontinue the flight when unairworthy mechanical, electrical, or structural conditions occur.

### § 91.9 Civil aircraft flight manual, marking, and placard requirements.

(a) Except as provided in paragraph (d) of this section, no person may operate a civil aircraft without complying with the operating limitations specified in the approved Airplane or Rotorcraft Flight Manual, markings, and placards, or as otherwise prescribed by the certificating authority of the country of registry.

(b) No person may operate a U.S.-registered civil aircraft—

(1) For which an Airplane or Rotorcraft Flight Manual is required by § 21.5 of this chapter unless there is available in the aircraft a current, approved Airplane or Rotorcraft Flight Manual or the manual provided for in § 121.141(b); and

(2) For which an Airplane or Rotorcraft Flight Manual is not required by § 21.5 of this chapter, unless there is available in the aircraft a current approved Airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

(c) No person may operate a U.S.-registered civil aircraft unless that aircraft is identified in accordance with Part 45 of this chapter.

(d) Any person taking off or landing a helicopter certificated under Part 29 of this chapter at a heliport constructed over water may make such momentary flight as is necessary for takeoff or landing through the prohibited range of the limiting height-speed envelope established for that helicopter if that flight through the prohibited range takes place over water on which a safe ditching can be accomplished and if the helicopter is amphibious or is equipped with floats or other emergency flotation gear adequate to accomplish a safe emergency ditching on open water.

### § 91.11 Prohibition against interference with crewmembers.

No person may assault, threaten, intimidate, or interfere with a crewmember in the performance of the crewmember's duties aboard an aircraft being operated.

### § 91.13 Careless or reckless operation.

(a) *Aircraft operations for the purpose of air navigation.* No person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another.

(b) *Aircraft operations other than for the purpose of air navigation.* No person may operate an aircraft, other than for the purpose of air navigation, on any part of the surface of an airport used by aircraft for air commerce (including areas used by those aircraft for receiving or discharging persons or cargo), in a careless or reckless manner so as to endanger the life or property of another.

### § 91.15 Dropping objects.

No pilot in command of a civil aircraft may allow any object to be dropped from that aircraft in flight that creates a hazard to persons or property. However, this section does not prohibit the dropping of any object if reasonable precautions are taken to avoid injury or damage to persons or property.

### § 91.17 Alcohol or drugs.

(a) No person may act or attempt to act as a crewmember of a civil aircraft—

(1) Within 8 hours after the consumption of any alcoholic beverage;

(2) While under the influence of alcohol;

(3) While using any drug that affects the person's faculties in any way contrary to safety; or

(4) While having .04 percent by weight or more alcohol in the blood.

(b) Except in an emergency, no pilot of a civil aircraft may allow a person who appears to be intoxicated or who demonstrates by manner or physical indications that the individual is under the influence of drugs (except a medical patient under proper care) to be carried in that aircraft.

(c) A crewmember shall do the following:

(1) On request of a law enforcement officer, submit to a test to indicate the percentage by weight of alcohol in the blood, when—

(i) The law enforcement officer is authorized under State or local law to conduct the test or to have the test conducted; and

(ii) The law enforcement officer is requesting submission to the test to investigate a suspected violation of State or local law governing the same or substantially similar conduct prohibited by paragraph (a)(1), (a)(2), or (a)(4) of this section.

(2) Whenever the Administrator has a reasonable basis to believe that a person may have violated paragraph (a)(1), (a)(2), or (a)(4) of this section, that person shall, upon request by the Administrator, furnisn the Administrator, or authorize any clinic, hospital, doctor, or other person to release to the Administrator, the results of each test taken within 4 hours after acting or attempting to act as a crewmember that indicates percentage by weight of alcohol in the blood.

(d) Whenever the Administrator has a reasonable basis to believe that a person may have violated paragraph (a) (3) of this section, that person shall, upon request by the Administrator, furnish the Administrator, or authorize any clinic, hospital, doctor, or other person to release to the Administrator, the results of each test taken within 4 hours after acting or attempting to act as a crewmember that indicates the presence of any drugs in the body.

(e) Any test information obtained by the Administrator under paragraph (c) or (d) of this section may be evaluated in determining a

person's qualifications for any airman certificate or possible violations of this chapter and may be used as evidence in any legal proceeding under Section 602, 609, or 901 of the Federal Aviation Act of 1958.

### § 91.19 Carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances.

(a) Except as provided in paragraph (b) of this section, no person may operate a civil aircraft within the United States with knowledge that narcotic drugs, marihuana, and depressant or stimulant drugs or substances as defined in Federal or State statutes are carried in the aircraft.

(b) Paragraph (a) of this section does not apply to any carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances authorized by or under any Federal or State statute or by any Federal or State agency.

### § 91.21 Portable electronic devices.

(a) Except as provided in paragraph (b) of this section, no person may operate, nor may any operator or pilot in command of an aircraft allow the operation of, any portable electronic device on any of the following U.S.-registered civil aircraft:

(1) Aircraft operated by a holder of an air carrier operating certificate or an operating certificate; or

(2) Any other aircraft while it is operated under IFR.

(b) Paragraph (a) of this section does not apply to—

(1) Portable voice recorders;
(2) Hearing aids;
(3) Heart pacemakers;
(4) Electric shavers; or
(5) Any other portable electronic device that the operator of the aircraft has determined will not cause interference with the navigation or communication system of the aircraft on which it is to be used.

(c) In the case of an aircraft operated by a holder of an air carrier operating certificate or an operating certificate, the determination required by paragraph (b) (5) of this section shall be made by that operator of the aircraft on which the particular device is to be used. In the case of other aircraft, the determination may be made by the pilot in command or other operator of the aircraft.

### § 91.23 Truth-in-leasing clause requirement in leases and conditional sales contracts.

(a) Except as provided in paragraph (b) of this section, the parties to a lease or contract of conditional sale involving a U.S.-registered large civil aircraft and entered into after January 2, 1973, shall execute a written lease or contract and include therein a written truth-in-leasing clause as a concluding paragraph in large print, immediately preceding the space for the signature of the parties, which contains the following with respect to each such aircraft:

(1) Identification of the Federal Aviation Regulations under which the aircraft has been maintained and inspected during the 12 months preceding the execution of the lease or contract of conditional sale, and certification by the parties thereto regarding the aircraft's status of compliance with applicable maintenance and inspection requirements in this part for the operation to be conducted under the lease or contract of conditional sale.

(2) The name and address (printed or typed) and the signature of the person responsible for operational control of the aircraft under the lease or contract of conditional sale, and certification that each person understands that person's responsibilities for compliance with applicable Federal Aviation Regulations.

(3) A statement that an explanation of factors bearing on operational control and pertinent Federal Aviation Regulations can be obtained from the nearest FAA Flight Standards district office.

(b) The requirements of paragraph (a) of this section do not apply—

(1) To a lease or contract of conditional sale when—

(i) The party to whom the aircraft is furnished is a foreign air carrier or certificate holder under Part 121, 125, 127, 135, or 141 of this chapter, or

(ii) The party furnishing the aircraft is a foreign air carrier, certificate holder under Part 121, 125, 127, or 141 of this chapter, or a certificate holder under Part 135 of this chapter having appropriate authority to engage in air taxi operations with large aircraft.

(2) To a contract of conditional sale, when the aircraft involved has not been registered anywhere prior to the execution of the contract, except as a new aircraft under a dealer's aircraft registration certificate issued in accordance with § 47.61 of this chapter.

(c) No person may operate a large civil aircraft of U.S. registry that is subject to a lease or contract of conditional sale to which paragraph (a) of this section applies, unless—

(1) The lessee or conditional buyer, or the registered owner if the lessee is not a citizen of the United States, has mailed a copy of the lease or contract that complies with the requirements of paragraph (a) of this section, within 24 hours of its execution, to the Aircraft Registry Technical Section, P.O. Box 25724, Oklahoma City, Oklahoma 73125;

(2) A copy of the lease or contract that complies with the requirements of paragraph (a) of this section is carried in the aircraft. The copy of the lease or contract shall be made available for review upon request by the Administrator, and

(3) The lessee or conditional buyer, or the registered owner if the lessee is not a citizen of the United States, has notified by telephone or in person, the FAA Flight Standards district office, nearest the airport where the flight will originate. Unless otherwise authorized by that office, the notification shall be given at least 48 hours before takeoff in the case of the first flight of that aircraft under that lease or contract and inform the FAA of—

(i) The location of the airport of departure;

(ii) The departure time; and

(iii) The registration number of the aircraft involved.

(d) The copy of the lease or contract furnished to the FAA under paragraph (c) of this section is commercial or financial information obtained from a person. It is, therefore, privileged and confidential and will not be made available by the FAA for public inspection or copying under 5 U.S.C. 552(b)(4) unless recorded with the FAA under Part 49 of this chapter.

(e) For the purpose of this section, a lease means any agreement by a person to furnish an aircraft to another person for compensation or hire, whether with or without flight crewmembers, other than an agreement for the sale of an aircraft and a contract of conditional sale under section 101 of the Federal Aviation Act of 1958. The person furnishing the aircraft is referred to as the lessor, and the person to whom it is furnished the lessee.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### § 91.25 Aviation Safety Reporting Program: Prohibition against use of reports for enforcement purposes.

The Administrator of the FAA will not use reports submitted to the National Aeronautics and Space Administration under the Aviation Safety Reporting Program (or information derived therefrom) in any enforcement action except information concerning accidents or criminal offenses which are wholly excluded from the Program.

### §§ 91.27—91.99 [Reserved]

## Subpart B—Flight Rules

### GENERAL

### § 91.101 Applicability.

This subpart prescribes flight rules governing the operation of aircraft within the United States and within 12 nautical miles from the coast of the United States.

### § 91.103 Preflight action.

Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include—

(a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which the pilot in command has been advised by ATC;

(b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information:

(1) For civil aircraft for which an approved Airplane or Rotorcraft Flight Manual containing takeoff and landing distance data is required, the takeoff and landing distance data contained therein; and

(2) For civil aircraft other than those specified in paragraph (b)(1) of this section, other reliable information appropriate to the aircraft, relating to aircraft performance under expected values of airport elevation and runway slope, aircraft gross weight, and wind and temperature.

**§ 91.105 Flight crewmembers at stations.**

(a) During takeoff and landing, and while en route, each required flight crewmember shall—

(1) Be at crewmember station unless the absence is necessary to perform duties in connection with the operation of the aircraft or in connection with physiological needs; and

(2) Keep the safety belt fastened while at the crewmember station.

(b) Each required flight crewmember of a U.S.-registered civil airplane shall, during takeoff and landing, keep the shoulder harness fastened while at crewmember station. This paragraph does not apply if—

(1) The seat at the crewmember's station is not equipped with a shoulder harness; or

(2) The crewmember would be unable to perform required duties with the shoulder harness fastened.

**§ 91.107 Use of safety belts.**

(a) No pilot may take off a U.S.-registered civil aircraft (except an airship or free balloon that incorporates a basket or gondola) unless the pilot in command of that aircraft ensures that each person on board is briefed on how to fasten and unfasten that person's safety belt and shoulder harness, if installed. The pilot in command shall ensure that all persons on board have been notified to fasten their safety belt and shoulder harness, if installed, before takeoff or landing.

(b) During the takeoff and landing of U.S.-registered civil aircraft (except an airship or a free balloon that incorporates a basket or gondola) each person on board that aircraft must occupy an approved seat or berth with a safety belt and shoulder harness, if installed, properly secured about that person. However, a person who has not reached the second birthday may be held by an adult who is occupying an approved seat or berth, and a person on board for the purpose of engaging in sport parachuting may use the floor of the aircraft as a seat.

(c) This section does not apply to operations conducted under Part 121, 125, 127, or 135 of this chapter. Paragraph (b) of this section does not apply to persons subject to § 91.105.

**§ 91.109 Flight instruction; Simulated instrument flight and certain flight tests.**

(a) No person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls. However, instrument flight instruction may be given in a single-engine airplane equipped with a single, functioning throwover control wheel in place of fixed, dual controls of the elevator and ailerons when—

(1) The instructor has determined that the flight can be conducted safely; and

(2) The person manipulating the controls has at least a private pilot certificate with appropriate category and class ratings.

(b) No person may operate a civil aircraft in simulated instrument flight unless—

(1) The other control seat is occupied by a safety pilot who possesses at least a private pilot certificate with category and class ratings appropriate to the aircraft being flown.

(2) The safety pilot has adequate vision forward and to each side of the aircraft, or a competent observer in the aircraft adequately supplements the vision of the safety pilot; and

(3) Except in the case of lighter-than-air aircraft, that aircraft is equipped with fully functioning dual controls. However, simulated instrument flight may be conducted in a single-engine airplane, equipped with a single, functioning, throwover control wheel, in place of fixed, dual controls of the elevator and ailerons, when—

(i) The safety pilot has determined that the flight can be conducted safely; and

(ii) The person manipulating the controls has at least a private pilot certificate with appropriate category and class ratings.

(c) No person may operate a civil aircraft that is being used for a flight test for an airline transport pilot certificate or a class or type rating on that certificate, or for a Part 121 proficiency flight test, unless the pilot seated at the controls, other than the pilot being checked, is fully qualified to act as pilot in command of the aircraft.

### § 91.111 Operating near other aircraft.

(a) No person may operate an aircraft so close to another aircraft as to create a collision hazard.

(b) No person may operate an aircraft in formation flight except by arrangement with the pilot in command of each aircraft in the formation.

(c) No person may operate an aircraft, carrying passengers for hire, in formation flight.

### § 91.113 Right-of-way rules: Except water operations.

(a) *Inapplicability.* This section does not apply to the operation of an aircraft on water.

(b) *General.* When weather conditions permit, regardless of whether an operation is conducted under instrument flight rules or visual flight rules, vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft. When a rule of this section gives another aircraft the right-of-way, the pilot shall give way to that aircraft and may not pass over, under, or ahead of it unless well clear.

(c) *In distress.* An aircraft in distress has the right-of-way over all other air traffic.

(d) *Converging.* When aircraft of the same category are converging at approximately the same altitude (except head-on, or nearly so), the aircraft to the other's right has the right-of-way. If the aircraft are of different categories—

(1) A balloon has the right-of-way over any other category of aircraft;

(2) A glider has the right-of-way over an airship, airplane, or rotorcraft; and

(3) An airship has the right-of-way over an airplane or rotorcraft.

However, an aircraft towing or refueling other aircraft has the right-of-way over all other engine-driven aircraft.

(e) *Approaching head-on.* When aircraft are approaching each other head-on, or nearly so, each pilot of each aircraft shall alter course to the right.

(f) *Overtaking.* Each aircraft that is being overtaken has the right-of-way and each pilot of an overtaking aircraft shall alter course to the right to pass well clear.

(g) *Landing.* Aircraft, while on final approach to land or while landing, have the right-of-way over other aircraft in flight or operating on the surface, except that they shall not take advantage of this rule to force an aircraft off the runway surface which has already landed and is attempting to make way for an aircraft on final approach. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of-way, but it shall not take advantage of this rule to cut in front of another which is on final approach to land or to overtake that aircraft.

### § 91.115 Right-of-way rules: Water operations.

(a) *General.* Each person operating an aircraft on the water shall, insofar as possible, keep clear of all vessels and avoid impeding their navigation, and shall give way to any vessel or other aircraft that is given the right-of-way by any rule of this section.

(b) *Crossing.* When aircraft, or an aircraft and a vessel, are on crossing courses, the aircraft or vessel to the other's right has the right-of-way.

(c) *Approaching head-on.* When aircraft, or an aircraft and a vessel, are approaching head-on, or nearly so, each shall alter its course to the right to keep well clear.

(d) *Overtaking.* Each aircraft or vessel that is being overtaken has the right-of-way, and the one overtaking shall alter course to keep well clear.

(e) *Special circumstances.* When aircraft, or an aircraft and a vessel, approach so as to involve risk of collision, each aircraft or vessel shall proceed with careful regard to existing circumstances, including the limitations of the respective craft.

**§ 91.117 Aircraft speed.**

(a) No person may operate an aircraft below 10,000 feet MSL at an indicated airspeed of more that 250 knots (288 m.p.h.).

(b) Unless otherwise authorized or required by ATC, no person may operate an aircraft within an airport traffic area at an indicated airspeed of more than 200 knots (230 m.p.h.).

This paragraph (b) does not apply to any operations within a terminal control area. Such operations shall comply with paragraph (a) of this section.

(c) No person may operate an aircraft in the airspace underlying a terminal control area, or in a VFR corridor designated through a terminal control area, at an indicated airpseed of more than 200 knots (230 m.p.h.).

(d) If the minimum safe airspeed for any particular operation is greater than the maximum speed prescribed in this section, the aircraft may be operated at that minimum speed.

**§ 91.119 Minimum safe altitudes: General.**

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

(a) *Anywhere.* An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.

(b) *Over congested areas.* Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

(c) *Over other than congested areas.* An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

(d) *Helicopters.* Helicopters may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section if the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with any routes or altitudes specifically prescribed for helicopters by the Administrator.

**§ 91.121 Altimeter settings.**

(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating—

(1) Below 18,000 feet MSL, to—

(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;

(ii) If there is no station within the area prescribed in paragraph (a)(1)(i) of this section, the current reported altimeter setting of an appropriate available station; or

(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure; or

(2) At or above 18,000 feet MSL, to 29.92″ Hg.

(b) The lowest usable flight level is determined by the atmospheric pressure in the area of operation as shown in the following table:

| *Current altimeter setting* | *Lowest usable flight level* |
|---|---|
| 29.92 (or higher) | 180 |
| 29.91 through 29.42 | 185 |
| 29.41 through 28.92 | 190 |
| 28.91 through 28.42 | 195 |
| 28.41 through 27.92 | 200 |
| 27.91 through 27.42 | 205 |
| 27.41 through 26.92 | 210 |

(c) To convert minimum altitude prescribed under §§ 91.119 and 91.177 to the minimum flight level, the pilot shall take the flight level equivalent of the minimum altitude in feet and add the appropriate number of feet specified below, according to the current reported altimeter setting:

| *Current altimeter setting* | *Adjustment factor* |
|---|---|
| 29.92 (or higher) | None |
| 29.91 through 29.42 | 500 feet |
| 29.41 through 28.92 | 1,000 feet |
| 28.91 through 28.42 | 1,500 feet |
| 28.41 through 27.92 | 2,000 feet |
| 27.91 through 27.42 | 2,500 feet |
| 27.41 through 26.92 | 3,000 feet |

### § 91.123 Compliance with ATC clearances and instructions.

(a) When an ATC clearance has been obtained, no pilot in command may deviate from that clearance, except in an emergency, unless an amended clearance is obtained. A pilot in command may cancel an IFR flight plan if that pilot is operating in VFR weather conditions outside of positive controlled airspace. If a pilot is uncertain of the meaning of an ATC clearance, the pilot shall immediately request clarification from ATC.

(b) Except in an emergency, no person may operate an aircraft contrary to an ATC instruction in an area in which air traffic control is exercised.

(c) Each pilot in command who, in an emergency, deviates from an ATC clearance or instruction shall notify ATC of that deviation as soon as possible.

(d) Each pilot in command who (though not deviating from a rule of this subpart) is given priority by ATC in an emergency, shall submit a detailed report of that emergency within 48 hours to the manager of that ATC facility, if requested by ATC.

(e) Unless otherwise authorized by ATC, no person operating an aircraft may operate that aircraft according to any clearance or instruction that has been issued to the pilot of another aircraft for radar air traffic control purposes.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### § 91.125 ATC light signals.

ATC light signals have the meaning shown in the following table:

| Color and type of signal | Meaning with respect to aircraft on the surface | Meaning with respect to aircraft in flight |
|---|---|---|
| Steady green | Cleared for takeoff | Cleared to land. |
| Flashing green | Cleared to taxi | Return for landing (to be followed by steady green at proper time). |
| Steady red | Stop | Give way to other aircraft and continue circling. |
| Flashing red | Taxi clear of runway in use. | Airport unsafe—do not land. |
| Flashing white | Return to starting point on airport. | Not applicable. |
| Alternating red and green. | Exercise extreme caution. | Exercise extreme caution. |

### § 91.127 Operating on or in the vicinity of an airport: General rules.

(a) Unless otherwise required by Part 93 of this chapter, each person operating an aircraft on or in the vicinity of an airport shall comply with the requirements of this section and, if applicable, of § 91.129.

(b) Each person operating an aircraft to or from an airport without an operating control tower shall—

(1) In the case of an airplane approaching to land, make all turns of that airplane to the left unless the airport displays approved light signals or visual markings indicating that turns should be made to the right, in which case the pilot shall make all turns to the right;

(2) In the case of a helicopter approaching to land, avoid the flow of fixed-wing aircraft; and

(3) In the case of an aircraft departing the airport, comply with any traffic patterns established for that airport in Part 93.

(c) Unless otherwise authorized or required by ATC, no person may operate an aircraft within an airport traffic area except for the purpose of landing at, or taking off from, an airport within that area. ATC authorization may be given as individual approval of specific operations or may be contained in written agreements between airport users and the tower concerned.

(d) Except when necessary for training or certification, the pilot in command of a civil turbojet-powered airplane shall use, as a final landing flap setting, the minimum certificated landing flap setting set forth in the approved performance information in the airplane flight manual for the applicable conditions. However, each pilot in command has the final authority and responsibility for the safe operation of the airplane and may use a different flap setting approved for that airplane if it is necessary in the interest of safety.

### § 91.129 Operation at airports with operating control towers.

(a) *General.* Unless otherwise authorized or required by ATC, each person operating an aircraft to, from, or on an airport with an

operating control tower shall comply with the applicable provisions of this section.

(b) *Communications with control towers operated by the United States.* No person may, within an airport traffic area, operate an aircraft to, from, or on an airport having a control tower operated by the United States unless two-way radio communications are maintained between that aircraft and the control tower. However, if the aircraft radio fails in flight, the pilot in command may operate that aircraft and land if weather conditions are at or above basic VFR weather minimums, visual contact with the tower is maintained, and a clearance to land is received. If the aircraft radio fails while in flight under IFR, the pilot must comply with § 91.185.

(c) *Communications with other control towers.* No person may, within an airport traffic area, operate an aircraft to, from, or on an airport having a control tower that is operated by any person other than the United States unless—

(1) If that aircraft's radio equipment so allows, two-way radio communications are maintained between the aircraft and the tower; or

(2) If that aircraft's radio equipment allows only reception from the tower, the pilot has the tower's frequency monitored.

(d) *Minimum altitudes.* When operating to an airport with an operating control tower, each pilot of—

(1) A turbine-powered airplane or a large airplane shall, unless otherwise required by the applicable distance from cloud criteria, enter the airport traffic area at an altitude of at least 1,500 feet above the surface of the airport and maintain an altitude of at least 1,500 feet within the airport traffic area, including the traffic pattern, until further descent is required for a safe landing;

(2) A turbine-powered airplane or a large airplane approaching to land on a runway being served by an ILS, if the airplane is ILS equipped, shall fly that airplane at an altitude at or above the glide slope between the outer marker (or the point of interception with the glide slope, if compliance with the applicable distance from clouds criteria requires interception closer in) and the middle marker; and,

(3) An airplane approaching to land on a runway served by a visual approach slope indicator shall maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing.

However, paragraphs (d)(2) and (3) of this section do not prohibit normal bracketing maneuvers above or below the glide slope that are conducted for the purpose of remaining on the glide slope.

(e) *Approaches.* When approaching to land at an airport with an operating control tower, each pilot of—

(1) An airplane shall circle the airport to the left; and

(2) A helicopter shall avoid the flow of fixed-wing aircraft.

(f) *Departures.* No person may operate an aircraft taking off from an airport with an operating control tower except in compliance with the following:

(1) Each pilot shall comply with any departure procedures established for that airport by the FAA.

(2) Unless otherwise required by the departure procedure or the applicable distance from clouds criteria, each pilot of a turbine-powered airplane and each pilot of a large airplane shall climb to an altitude of 1,500 feet above the surface as rapidly as practicable.

(g) *Noise abatement runway system.* When landing or taking off from an airport with an operating control tower and for which a formal runway use program has been established by the FAA, each pilot of a turbine-powered airplane and each pilot of a large airplane assigned a noise abatement runway by ATC shall use that runway. However, consistent with the final authority of the pilot in command concerning the safe operation of the aircraft as prescribed in § 91.3(a), ATC may assign a different runway if requested by the pilot in the interest of safety.

(h) *Clearances required.* No person may, at an airport with an operating control tower, operate an aircraft on a runway or taxiway, or takeoff or land an aircraft, unless an appropriate clearance is received from ATC. A clearance to "taxi to" the takeoff runway assigned to the aircraft is not a clearance to

cross that assigned takeoff runway or to taxi on that runway at any point, but is a clearance to cross other runways that intersect the taxi route to that assigned takeoff runway. A clearance to "taxi to" any point other than an assigned takeoff runway is a clearance to cross all runways that intersect the taxi route to that point.

**§ 91.130 Airport radar service areas.**

(a) *General.* For the purposes of this section, the primary airport is the airport designated in Part 71, Subpart L, for which the airport radar service area is designated. A satellite airport is any other airport within the airport radar service area.

(b) *Deviations.* An operator may deviate from any provision of this section under the provisions of an ATC authorization issued by the ATC facility having jurisdiction of the airport radar service area. ATC may authorize a deviation on a continuing basis or for an individual flight, as appropriate.

(c) *Arrivals and overflights.* No person may operate an aircraft in an airport radar service area unless two-way radio communication is established with ATC prior to entering that area and is thereafter maintained with ATC while within that area.

(d) *Departures.* No person may operate an aircraft within an airport radar service area unless two-way radio communication is maintained with ATC while within that area, except that for aircraft departing a satellite airport, two-way radio communication is established as soon as practicable and thereafter maintained with ATC while within that area.

(e) *Traffic patterns.* No person may takeoff or land an aircraft at a satellite airport within an airport radar service area except in compliance with FAA arrival and departure traffic patterns.

(f) *Equipment requirement.* Unless otherwise authorized by ATC, no person may operate an aircraft within an airport radar service area unless that aircraft is equipped with the applicable equipment specified in § 91.215.

**§ 91.131 Terminal control areas.**

(a) *Operating rules.* No person may operate an aircraft within a terminal control area designated in Part 71 of this chapter except in compliance with the following rules:

(1) No person may operate an aircraft within a terminal control area unless that person has received an appropriate authorization from ATC prior to operation of that aircraft in that area.

(2) Unless otherwise authorized by ATC, each person operating a large turbine engine-powered airplane to or from a primary airport shall operate at or above the designated floors while within the lateral limits of the terminal control area.

(3) Any person conducting pilot training operations at an airport within a terminal control area shall comply with any procedures established by ATC for such operations in terminal control area.

(b) *Pilot requirements.*

(1) No person may takeoff or land a civil aircraft at an airport within a terminal control area or operate a civil aircraft within a terminal control area unless:

(i) The pilot in command holds at least a private pilot certificate; or

(ii) The aircraft is operated by a student pilot who has met the requirements of § 61.95.

(2) Notwithstanding the provisions of (b)(1)(ii) of this section, at the following TCA primary airports, no person may takeoff or land a civil aircraft unless the pilot in command holds at least a private pilot certificate:

(i) Atlanta Hartsfield Airport, GA.

(ii) Boston Logan Airport, MA.

(iii) Chicago O'Hare International Airport, IL.

(iv) Dallas/Fort Worth International Airport, TX.

(v) Los Angeles International Airport, CA.

(vi) Miami International Airport, FL.

(vii) Newark International Airport, NJ.

(viii) New York Kennedy Airport, NY.

(ix) New York La Guardia Airport, NY.

(x) San Francisco International Airport, CA.

(xi) Washington National Airport, DC.

(xii) Andrews Air Force Base, MD.

(c) *Communications and navigation equipment requirements.* Unless otherwise authorized by ATC, no person may operate an aircraft within a terminal control area unless that aircraft is equipped with—

(1) An operable VOR or TACAN receiver (except for helicopter operations prior to January 1, 1990; and

(2) An operable two-way radio capable of communications with ATC on appropriate frequencies for that terminal control area.

(d) *Transponder requirement.* No person may operate an aircraft in a terminal control area unless the aircraft is equipped with the applicable operating transponder and automatic altitude reporting equipment specified in paragraph (a) of § 91.215, except as provided for in paragraph (d) of that section.

**§ 91.133 Restricted and prohibited areas.**

(a) No person may operate an aircraft within a restricted area (designated in Part 73) contrary to the restrictions imposed, or within a prohibited area, unless that person has the permission of the using or controlling agency, as appropriate.

(b) Each person conducting, within a restricted area, an aircraft operation (approved by the using agency) that creates the same hazards as the operations for which the restricted area was designated may deviate from the rules of this subpart that are not compatible with the operation of the aircraft.

**§ 91.135 Positive control areas and route segments.**

(a) Except as provided in paragraph (b) of this section, no person may operate an aircraft within a positive control area or positive control route segment designated in Part 71 of this chapter unless the aircraft is—

(1) Operated under IFR at a specific flight level assigned by ATC;

(2) Equipped with instruments and equipment required for IFR operations;

(3) Flown by a pilot rated for instrument flight; and

(4) Equipped, when in a positive control area, with—

(i) The applicable equipment specified in § 91.215; and

(ii) A radio providing direct pilot/controller communication on the frequency specified by ATC for the area concerned.

(b) ATC may authorize deviations from the requirements of paragraph (a) of this section. In the case of an inoperative transponder, ATC may immediately approve an operation within a positive control area allowing flight to continue, if desired, to the airport of ultimate destination, including any intermediate stops, or to proceed to a place where suitable repairs can be made, or both. A request for authorization to deviate from a requirement of paragraph (a) of this section, other than for operation with an inoperative transponder as outlined above, must be submitted at least 48 hours before the proposed operation to the ATC center having jurisdiction over the positive control area concerned. ATC may authorize deviation on a continuing basis or for an individual flight, as appropriate.

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**91.137 Temporary flight restrictions.**

(a) The Administrator will issue a Notice to Airmen (NOTAM) designating an area within which temporary flight restrictions apply and specifying the hazard or condition requiring their imposition, whenever he determines it is necessary in order to—

(1) Protect persons and property on the surface or in the air from a hazard associated with an incident on the surface;

(2) Provide a safe environment for the operation of disaster relief aircraft; or

(3) Prevent an unsafe congestion of sightseeing and other aircraft above an incident or event which may generate a high degree of public interest.

The Notice to Airmen will specify the hazard or condition that requires the imposition of temporary flight restrictions.

(b) When a NOTAM has been issued under paragraph (a) (1) of this section, no person may operate an aircraft within the designated area unless that aircraft is participating in the hazard relief activities and is being operated under the direction of the official in charge of on scene emergency response activities.

(c) When a NOTAM has been issued under paragraph (a) (2) of this section, no person may operate an aircraft within the designated area unless at least one of the following conditions are met:

(1) The aircraft is participating in hazard relief activities and is being operated under the direction of the official in charge of on scene emergency response activities.

(2) The aircraft is carrying law enforcement officials.

(3) The aircraft is operating under the ATC approved IFR flight plan.

(4) The operation is conducted directly to or from an airport within the area, or is necessitated by the impracticability of VFR flight above or around the area due to weather, or terrain; notification is given to the Flight Service Station (FSS) or ATC facility specified in the NOTAM to receive advisories concerning disaster relief aircraft operations; and the operation does not hamper or endanger relief activities and is not conducted for the purpose of observing the disaster.

(5) The aircraft is carrying properly accredited news representatives, and, prior to entering the area, a flight plan is filed with the appropriate FAA or ATC facility specified in the Notice to Airmen and the operation is conducted above the altitude used by the disaster relief aircraft, unless otherwise authorized by the official in charge of on scene emergency response activities.

(d) When a NOTAM has been issued under paragraph (a) (3) of this section, no person may operate an aircraft within the designated area unless at least one of the following conditions is met:

(1) The operation is conducted directly to or from an airport within the area, or is necessitated by the impracticability of VFR flight above or around the area due to weather or terrain, and the operation is not conducted for the purpose of observing the incident or event.

(2) The aircraft is operating under an ATC approved IFR flight plan.

(3) The aircraft is carrying incident or event personnel, or law enforcement officials.

(4) The aircraft is carrying properly accredited news representatives and, prior to entering that area, a flight plan is filed with the appropriate FSS or ATC facility specified in the NOTAM.

(e) Flight plans filed and notifications made with an FSS or ATC facility under this section shall include the following information:

(1) Aircraft identification, type and color.

(2) Radio communications frequencies to be used.

(3) Proposed times of entry of, and exit from, the designated area.

(4) Name of news media or organization and purpose of flight.

(5) Any other information requested by ATC.

### § 91.139 Emergency air traffic rules.

(a) This section prescribes a process for utilizing Notices to Airmen (NOTAMs) to advise of the issuance and operations under emergency air traffic rules and regulations and designates the official who is authorized to issue NOTAMs on behalf of the Administrator in certain matters under this section.

(b) Whenever the Administrator determines that an emergency condition exists, or will exist, relating to the FAA's ability to operate the air traffic control system and during which normal flight operations under this chapter cannot be conducted consistent with the required levels of safety and efficiency—

(1) The Administrator issues an immediately effective air traffic rule or regulation in response to that emergency condition, and

(2) The Administrator or the Associate Administrator for Air Traffic may utilize the NOTAM system to provide notification of the issuance of the rule or regulation.

Those NOTAMs communicate information concerning the rules and regulations that govern flight operations, the use of navigation facilities, and designation of that airspace in which the rules and regulations apply.

(c) When a NOTAM has been issued under this section, no person may operate an aircraft, or other device governed by the regulation concerned, within the designated airspace except in accordance with the authorizations, terms, and conditions prescribed in the regulation covered by the NOTAM.

### § 91.141 Flight restrictions in the proximity of the Presidential and other parties.

No person may operate an aircraft over or in the vicinity of any area to be visited or traveled by the President, the Vice President, or other public figures contrary to the restrictions established by the Administrator and published in a Notice to Airmen (NOTAM).

### § 91.143 Flight limitation in the proximity of space flight operations.

No person may operate any aircraft of U.S. registry, or pilot any aircraft under the authority of an airman certificate issued by the Federal Aviation Administration within areas designated in a Notice to Airmen (NOTAM) for space flight operations except when authorized by ATC, or operated under the control of the Department of Defense Manager for Space Transportation System Contingency Support Operations.

### §§ 91.145–91.149 [Reserved]

## VISUAL FLIGHT RULES

### § 91.151 Fuel requirements for flight in VFR conditions.

(a) No person may begin a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed,—

(1) During the day, to fly after that for at least 30 minutes; or

(2) At night, to fly after that for at least 45 minutes.

(b) No person may begin a flight in a rotorcraft under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 20 minutes.

### § 91.153 VFR flight plan: information required.

(a) *Information required.* Unless otherwise authorized by ATC, each person filing a VFR flight plan shall include in it the following information:

(1) The aircraft identification number and, if necessary, its radio call sign.

(2) The type of the aircraft or, in the case of a formation flight, the type of each aircraft and the number of aircraft in the formation.

(3) The full name and address of the pilot in command or, in the case of a formation flight, the formation commander.

(4) The point and proposed time of departure.

(5) The proposed route, cruising altitude (or flight level), and true airspeed at that altitude.

(6) The point of first intended landing and the estimated elapsed time until over that point.

(7) The amount of fuel on board (in hours).

(8) The number of persons in the aircraft, except where that information is otherwise readily available to the FAA.

(9) Any other information the pilot in command or ATC believes is necessary for ATC purposes.

(b) *Cancellation.* When a flight plan has been activated, the pilot in command, upon canceling or completing the flight under the flight plan, shall notify an FAA Flight Service Station or ATC facility.

### § 91.155 Basic VFR weather minimums.

(a) Except as provided in § 91.157, no person may operate an aircraft under VFR when the flight visibility is less, or at a distance from clouds that is less, than that prescribed for the corresponding altitude in the following table. [on next page]

(b) When the visibility is less than 1 statute mile, a helicopter may be operated outside controlled airspace at 1,200 feet or less above the surface if operated at a speed that allows the pilot adequate opportunity to see any air traffic or other obstruction in time to avoid a collision.

(c) Except as provided in § 91.157, no person may operate an aircraft, under VFR, within a control zone beneath the ceiling when the ceiling is less than 1,000 feet.

(d) Except as provided in § 91.157, no person may take off or land an aircraft, or enter

| Altitude | Flight Visibility | Distance from Clouds |
|---|---|---|
| 1,200 feet or less above the surface (regardless of MSL altitude)- | | |
| Within controlled airspace | 3 statute miles | 500 feet below.<br>1,000 feet above.<br>2,000 feet horizontal. |
| Outside controlled airspace | 1 statute mile except as provided in § 91.155(b). | Clear of clouds. |
| More than 1,200 feet above the surface but less than 10,000 feet MSL— | | |
| Within controlled airspace | 3 statute miles | 500 feet below.<br>1,000 feet above.<br>2,000 feet horizontal. |
| Outside controlled airspace | 1 statute mile | 500 feet below.<br>1,000 feet above.<br>2,000 feet horizontal. |
| More than 1,200 feet above the surface and at or above 10,000 feet MSL. | 5 statute miles | 1,000 feet below.<br>1,000 feet above.<br>1 mile horizontal. |

the traffic pattern of an airport, under VFR, within a control zone—

(1) Unless ground visibility at that airport is at least 3 statute miles; or

(2) If ground visibility is not reported at that airport, unless flight visibility during landing or takeoff, or while operating in the traffic pattern, is at least 3 statute miles.

(e) For the purposes of this section, an aircraft operating at the base altitude of a transition area or control area is considered to be within the airspace directly below that area.

### § 91.157 Special VFR weather minimums.

(a) Except as provided in § 93.113, when a person has received an appropriate ATC clearance, the special weather minimums of this section instead of those contained in § 91.155 apply to the operation of an aircraft by that person in a control zone under VFR.

(b) No person may operate an aircraft in a control zone under VFR except clear of clouds.

(c) No person may operate an aircraft (other than a helicopter) in a control zone under VFR unless flight visibility is at least 1 statute mile.

(d) No person may take off or land an aircraft (other than a helicopter) at any airport in a control zone under VFR—

(1) Unless ground visibility at that airport is at least 1 statute mile; or

(2) If ground visibility is not reported at that airport, unless flight visibility during landing or takeoff is at least 1 statute mile.

(e) No person may operate an aircraft (other than a helicopter) in a control zone under the special weather minimums of this section, between sunset and sunrise (or in Alaska, when the sun is more than 6 degrees below the horizon) unless:

(1) That person meets the applicable requirements for instrument flight under Part 61 of this chapter; and

(2) The aircraft is equipped as required in § 91.205(d).

### § 91.159 VFR cruising altitude or flight level.

Except while holding in a holding pattern of 2 minutes or less, or while turning, each person operating an aircraft under VFR in level cruising flight more than 3,000 feet above the surface shall maintain the appropriate altitude or flight level prescribed below, unless otherwise authorized by ATC:

(a) When operating below 18,000 feet MSL and—

(1) On a magnetic course of zero degrees through 179 degrees, any odd thousand foot MSL altitude +500 feet (such as 3,500, 5,500, or 7,500); or

(2) On a magnetic course of 180 degrees through 359 degrees, any even thousand foot MSL altitude + 500 feet (such as 4,500, 6,500, or 8,500).

(b) When operating above 18,000 feet MSL to flight level 290 (inclusive) and—

(1) On a magnetic course of zero degrees through 179 degrees, any odd flight level + 500 feet (such as 195, 215, or 235); or

(2) On a magnetic course of 180 degrees through 359 degrees, any even flight level + 500 feet (such as 185, 205, or 225).

(c) When operating above flight level 290 and—

(1) On a magnetic course of zero degrees through 179 degrees, any flight level, at 4,000-foot intervals, beginning at and including flight level 300 (such as flight level 300, 340, or 380); or

(2) On a magnetic course of 180 degrees through 359 degrees, any flight level, at 4,000-foot intervals, beginning at and including flight level 320 (such as flight level 320, 360, or 400).

**§§ 91.161—91.165 [Reserved]**

## INSTRUMENT FLIGHT RULES

### § 91.167 Fuel requirements for flight in IFR conditions.

(a) Except as provided in paragraph (b) of this section, no person may operate a civil aircraft in IFR conditions unless it carries enough fuel (considering weather reports and forecasts and weather conditions) to—

(1) Complete the flight to the first airport of intended landing;

(2) Fly from that airport to the alternate airport; and

(3) Fly after that for 45 minutes at normal cruising speed or, for helicopters, fly after that for 30 minutes at normal cruising speed.

(b) Paragraph (a) (2) of this section does not apply if—

(1) Part 97 of this chapter prescribes a standard instrument approach procedure for the first airport of intended landing; and

(2) For at least 1 hour before and 1 hour after the estimated time of arrival at the airport, the weather reports or forecasts or any combination of them indicate—

(i) The ceiling will be at least 2,000 feet above the airport elevation; and

(ii) Visibility will be at least 3 statute miles.

### § 91.169 IFR flight plan: Information required.

(a) *Information required.* Unless otherwise authorized by ATC, each person filing an IFR flight plan shall include in it the following information:

(1) Information required under § 91.153(a).

(2) An alternate airport, except as provided in paragraph (b) of this section.

(b) *Exceptions to applicability of paragraph (a) (2) of this section.* Paragraph (a) (2) of this section does not apply if Part 97 of this chapter prescribes a standard instrument approach procedure for the first airport of intended landing and, for at least 1 hour before and 1 hour after the estimated time of arrival, the weather reports or forecasts, or any combination of them, indicate—

(1) The ceiling will be at least 2,000 feet above the airport elevation; and

(2) The visibility will be at least 3 statute miles.

(c) *IFR alternate airport weather minimums.* Unless otherwise authorized by the Administrator, no person may include an alternate airport in an IFR flight plan unless current weather forecasts indicate that, at the estimated time of arrival at the alternate airport, the ceiling and visibility at that airport will be at or above the following alternate airport weather minimums:

(1) If an instrument approach procedure has been published in Part 97 of this chapter for that airport, the alternate airport minimums specified in that procedure or, if none are so specified, the following minimums:

(i) Precision approach procedure: Ceiling 600 feet and visibility 2 statute miles.

(ii) Non precision approach procedure: Ceiling 800 feet and visibility 2 statute miles.

(2) If no instrument approach procedure has been published in Part 97 of this chapter for that airport, the ceiling and visibility minimums are those allowing descent from the MEA, approach, and landing under basic VFR.

(d) *Cancellation.* When a flight plan has been activated, the pilot in command, upon canceling or completing the flight under the flight plan, shall notify an FAA Flight Service Station or ATC facility.

**§ 91.171 VOR equipment check for IFR operations.**

(a) No person may operate a civil aircraft under IFR using the VOR system of radio navigation unless the VOR equipment of that aircraft—

(1) Is maintained, checked, and inspected under an approved procedure; or

(2) Has been operationally checked within the preceding 30 days, and was found to be within the limits of the permissible indicated bearing error set forth in paragraph (b) or (c) of this section.

(b) Except as provided in paragraph (c) of this section, each person conducting a VOR check under paragraph (a) (2) of this section shall—

(1) Use, at the airport of intended departure, an FAA-operated or approved test signal or a test signal radiated by a certificated and appropriately rated radio repair station or, outside the United States, a test signal operated or approved by an appropriate authority to check the VOR equipment (the maximum permissible indicated bearing error is plus or minus 4 degrees); or

(2) Use, at the airport of intended departure, a point on the airport surface designated as a VOR system checkpoint by the Administrator, or, outside the United States, by an appropriate authority (the maximum permissible bearing error is plus or minus 4 degrees);

(3) If neither a test signal nor a designated checkpoint on the surface is available, use an airborne checkpoint designated by the Administrator or, outside the United States, by an appropriate authority (the maximum permissible bearing error is plus or minus 6 degrees); or

(4) If no check signal or point is available, while in flight—

(i) Select a VOR radial that lies along the centerline of an established VOR airway;

(ii) Select a prominent ground point along the selected radial preferably more than 20 nautical miles from the VOR ground facility and maneuver the aircraft directly over the point at a reasonably low altitude; and

(iii) Note the VOR bearing indicated by the receiver when over the ground point (the maximum permissible variation between the published radial and the indicated bearing is 6 degrees).

(c) If dual system VOR (units independent of each other except for the antenna) is installed in the aircraft, the person checking the equipment may check one system against the other in place of the check procedures specified in paragraph (b) of this section. Both systems shall be tuned to the same VOR ground facility and note the indicated bearings to that station. The maximum permissible variation between the two indicated bearings is 4 degrees.

(d) Each person making the VOR operational check, as specified in paragraph (b) or (c) of this section, shall enter the date, place, bearing error, and sign the aircraft log or other record. In addition, if a test signal radiated by a repair station, as specified in paragraph (b) (1) of this section, is used, an entry must be made in the aircraft log or other record by the repair station certificate holder or the certificate holder's representative certifying to the bearing transmitted by the repair station for the check and the date of transmission.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

**§ 91.173 ATC clearance and flight plan required.**

No person may operate an aircraft in controlled airspace under IFR unless that person has—

(a) Filed an IFR flight plan; and

(b) Received an appropriate ATC clearance.

**§ 91.175 Takeoff and landing under IFR.**

(a) *Instrument approaches to civil airports.* Unless otherwise authorized by the Administrator, when an instrument letdown to a civil airport is necessary, each person operating an aircraft, except a military aircraft of the United States, shall use a standard instrument approach procedure prescribed for the airport in Part 97 of this chapter.

(b) *Authorized DH or MDA.* For the purpose of this section, when the approach procedure being used provides for and requires the use of a DH or MDA, the authorized DH or MDA is the highest of the following:

(1) The DH or MDA prescribed by the approach procedure.

(2) The DH or MDA prescribed for the pilot in command.

(3) The DH or MDA for which the aircraft is equipped.

(c) *Operation below DH or MDA.* Where a DH or MDA is applicable, no pilot may operate an aircraft, except a military aircraft of the United States, at any airport below the authorized MDA or continue an approach below the authorized DH unless—

(1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and for operations conducted under Part 121 or Part 135 unless that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;

(2) The flight visibility is not less than the visibility prescribed in the standard instrument approach being used; and

(3) Except for a Category II or Category III approach where any necessary visual reference requirements are specified by the Administrator, at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

(i) The approach light system, except that the pilot may not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable.

(ii) The threshold.

(iii) The threshold markings.

(iv) The threshold lights.

(v) The runway end identifier lights.

(vi) The visual approach slope indicator.

(vii) The touchdown zone or touchdown zone markings.

(viii) The touchdown zone lights.

(ix) The runway or runway markings.

(x) The runway lights.

(d) *Landing.* No pilot operating an aircraft, except a military aircraft of the United States, may land that aircraft when the flight visibility is less than the visibility prescribed in the standard instrument approach procedure being used.

(e) *Missed approach procedures.* Each pilot operating an aircraft, except a military aircraft of the United States, shall immediately execute an appropriate missed approach procedure when either of the following conditions exist:

(1) Whenever the requirements of paragraph (c) of this section are not met at either of the following times:

(i) When the aircraft is being operated below MDA; or

(ii) Upon arrival at the missed approach point, including a DH where a DH is specified and its use is required, and at any time after that until touchdown.

(2) Whenever an identifiable part of the airport is not distinctly visible to the pilot during a circling maneuver at or above MDA, unless the inability to see an identifiable part of the airport results only from a normal bank of the aircraft during the circling approach.

(f) *Civil airport takeoff minimums.* Unless otherwise authorized by the Administrator, no pilot operating an aircraft under Part 121, 125, 127, 129, or 135 of this chapter may take off from a civil airport under IFR unless weather conditions are at or above the weather minimums for IFR takeoff prescribed for that airport under Part 97 of this chapter. If takeoff minimums are not prescribed under Part 97 of this chapter for a particular airport, the following minimums apply to takeoffs under IFR for aircraft operating under those parts:

(1) For aircraft, other than helicopters, having two engines or less—1 statute mile visibility.

(2) For aircraft having more than two engines—½ statute mile visibility.

(3) For helicopters—½ statute mile visibility.

(g) *Military airports.* Unless otherwise prescribed by the Administrator, each person operating a civil aircraft under IFR into or

out of a military airport shall comply with the instrument approach procedures and the takeoff and landing minimum prescribed by the military authority having jurisdiction of that airport.

(h) *Comparable values of RVR and ground visibility.*

(1) Except for Category II or Category III minimums, if RVR minimums for takeoff or landing are prescribed in an instrument approach procedure, but RVR is not reported for the runway of intended operation, the RVR minimum shall be converted to ground visibility in accordance with the table in paragraph (h)(2) of this section and shall be the visibility minimum for takeoff or landing on that runway.

| (2) RVR (feet) | Visibility (statute miles) |
|---|---|
| 1,600 | ¼ |
| 2,400 | ½ |
| 3,200 | ⅝ |
| 4,000 | ¾ |
| 4,500 | ⅞ |
| 5,000 | 1 |
| 6,000 | 1¼ |

(i) *Operations on unpublished routes and use of radar in instrument approach procedures.* When radar is approved at certain locations for ATC purposes, it may be used not only for surveillance and precision radar approaches, as applicable, but also may be used in conjunction with instrument approach procedures predicted on other types of radio navigational aids. Radar vectors may be authorized to provide course guidance through the segments of an approach to the final course or fix. When operating on an unpublished route or while being radar vectored, the pilot, when an approach clearance is received, shall, in addition to complying with § 91.177, maintain the last altitude assigned to that pilot until the aircraft is established on a segment of a published route or instrument approach procedure unless a different altitude is assigned by ATC. After the aircraft is so established, published altitudes apply to descent within each succeeding route or approach segment unless a different altitude is assigned by ATC. Upon reaching the final approach course or fix, the pilot may either complete the instrument approach in accordance with a procedure approved for the facility or continue a surveillance or precision radar approach to a landing.

(j) *Limitation on procedure turns.* In the case of a radar vector to a final approach course or fix, a timed approach from a holding fix, or an approach for which the procedure specifies "No PT," no pilot may make a procedure turn unless cleared to do so by ATC.

(k) *ILS components.* The basic ground components of an ILS are the localizer, glide slope, outer marker, middle marker, and, when installed for use with Category II or Category III instrument approach procedures, an inner marker. A compass locator or precision radar may be substituted for the outer or middle marker. DME, VOR, or nondirectional beacon fixes authorized in the standard instrument approach procedure or surveillance radar may be substituted for the outer marker. Applicability of, and substitution for, the inner marker for Category II or III approaches is determined by the appropriate Part 97 approach procedure, letter of authorization, or operations specification pertinent to the operations.

### § 91.177 Minimum altitudes for IFR operations.

(a) *Operation of aircraft at minimum altitudes.* Except when necessary for takeoff or landing, no person may operate an aircraft under IFR below—

(1) The applicable minimum altitudes prescribed in Parts 95 and 97 of this chapter; or

(2) If no applicable minimum altitude is prescribed in those parts—

(i) In the case of operations over an area designated as a mountainous area in Part 95, an altitude of 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown; or

(ii) In any other case, an altitude of 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown.

However, if both a MEA and a MOCA are prescribed for a particular route or route segment, a person may operate an aircraft below the MEA down to, but not below, the

MOCA, when within 22 nautical miles of the VOR concerned (based on the pilot's reasonable estimate of that distance).

(b) *Climb.* Climb to a higher minimum IFR altitude shall begin immediately after passing the point beyond which that minimum altitude applies, except that when ground obstructions intervene, the point beyond which the higher minimum altitude applies shall be crossed at or above the applicable MCA.

### § 91.179 IFR cruising altitude or flight level.

(a) *In controlled airspace.* Each person operating an aircraft under IFR in level cruising flight in controlled airspace shall maintain the altitude or flight level assigned that aircraft by ATC. However, if the ATC clearance assigns "VFR conditions on-top," that person shall maintain an altitude or flight level as prescribed by § 91.159.

(b) *In uncontrolled airspace.* Except while in a holding pattern of 2 minutes or less or while turning, each person operating an aircraft under IFR in level cruising flight in uncontrolled airspace shall maintain an appropriate altitude as follows:

(1) When operating below 18,000 feet MSL and—

(i) On a magnetic course of zero degrees through 179 degrees, any odd thousand foot MSL altitude (such as 3,000, 5,000, or 7,000); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any even thousand foot MSL altitude (such as 2,000, 4,000, or 6,000).

(2) When operating at or above 18,000 feet MSL but below flight level 290, and—

(i) On a magnetic course of zero degrees through 179 degrees, any odd flight level (such as 190, 210, or 230); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any even flight level (such as 180, 200, or 220).

(3) When operating at flight level 290 and above, and—

(i) On a magnetic course of zero degrees through 179 degrees, any flight level, at 4,000-foot intervals, beginning at and including flight level 290 (such as flight level 290, 330, or 370); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any flight level, at 4,000-foot intervals, beginning at and including flight level 310 (such as flight level 310, 350, or 390).

### § 91.181 Course to be flown.

Unless otherwise authorized by ATC, no person may operate an aircraft within controlled airspace under IFR except as follows:

(a) On a Federal airway, along the centerline of that airway.

(b) On any other route, along the direct course between the navigational aids or fixes defining that route. However, this section does not prohibit maneuvering the aircraft to pass well clear of other air traffic or the maneuvering of the aircraft in VFR conditions to clear the intended flight path both before and during climb or descent.

### § 91.183 IFR radio communications.

The pilot in command of each aircraft operated under IFR in controlled airspace shall have a continuous watch maintained on the appropriate frequency and shall report by radio as soon as possible—

(a) The time and altitude of passing each designated reporting point, or the reporting points specified by ATC, except that while the aircraft is under radar control, only the passing of those reporting points specifically requested by ATC need be reported;

(b) Any unforecast weather conditions encountered; and

(c) Any other information relating to the safety of flight.

### § 91.185 IFR operations: Two-way radio communications failure.

(a) *General.* Unless otherwise authorized by ATC, each pilot who has two-way radio communications failure when operating under IFR shall comply with the rules of this section.

(b) *VFR conditions.* If the failure occurs in VFR conditions, or if VFR conditions are encountered after the failure, each pilot shall continue the flight under VFR and land as soon as practicable.

(c) *IFR conditions.* If the failure occurs in IFR conditions, or if paragraph (b) of this section cannot be complied with, each pilot shall continue the flight according to the following:

(1) *Route.*

(i) By the route assigned in the last ATC clearance received;

(ii) If being radar vectored, by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance;

(iii) In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or

(iv) In the absence of an assigned route or a route that ATC has advised may be expected in a further clearance, by the route filed in the flight plan.

(2) *Altitude.* At the highest of the following altitudes or flight levels for the route segment being flown:

(i) The altitude or flight level assigned in the last ATC clearance received;

(ii) The minimum altitude (converted, if appropriate, to minimum flight level as prescribed in § 91.121(c)) for IFR operations; or

(iii) The altitude or flight level ATC has advised may be expected in a further clearance.

(3) *Leave clearance limit.*

(i) When the clearance limit is a fix from which an approach begins, commence descent or descent and approach as close as possible to the expect-further-clearance time if one has been received, or if one has not been received, as close as possible to the estimated time of arrival as calculated from the filed or amended (with ATC) estimated time en route.

(ii) If the clearance limit is not a fix from which an approach begins, leave the clearance limit at the expect-further-clearance time if one has been received, or if none has been received, upon arrival over the clearance limit, and proceed to a fix from which an approach begins and commence descent or descent and approach as close as possible to the estimated time of arrival as calculated from the filed or amended (with ATC) estimated time en route.

### § 91.187 Operation under IFR in controlled airspace: Malfunction reports.

(a) The pilot in command of each aircraft operated in controlled airspace under IFR shall report as soon as practical to ATC any malfunctions of navigational, approach, or communication equipment occurring in flight.

(b) In each report required by paragraph (a) of this section, the pilot in command shall include the—

(1) Aircraft identification;

(2) Equipment affected;

(3) Degree to which the capability of the pilot to operate under IFR in the ATC system is impaired; and

(4) Nature and extent of assistance desired from ATC.

### § 91.189 Category II and III operations: General operating rules.

(a) No person may operate a civil aircraft in a Category II or III operation unless—

(1) The flightcrew of the aircraft consists of a pilot in command and a second in command who hold the appropriate authorizations and ratings prescribed in § 61.3 of this chapter;

(2) Each flight crewmember has adequate knowledge of, and familiarity with, the aircraft and the procedures to be used; and

(3) The instrument panel in front of the pilot who is controlling the aircraft has appropriate instrumentation for the type of flight control guidance system that is being used.

(b) Unless otherwise authorized by the Administrator, no person may operate a civil aircraft in a Category II or Category III operation unless each ground component required for that operation and the related airborne equipment is installed and operating.

(c) *Authorized DH.* For the purpose of this section, when the approach procedure being used provides for and requires the use of a DH, the authorized DH is the highest of the following:

(1) The DH prescribed by the approach procedure.

(2) The DH prescribed for the pilot in command.

(3) The DH for which the aircraft is equipped.

(d) Unless otherwise authorized by the Administrator, no pilot operating an aircraft in a Category II or Category III approach that provides and requires use of a DH may continue the approach below the authorized decision height unless the following conditions are met:

(1) The aircraft is in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and where that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing.

(2) At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

(i) The approach light system, except that the pilot may not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable.

(ii) The threshold.

(iii) The threshold markings.

(iv) The threshold lights.

(v) The touchdown zone or touchdown zone markings.

(vi) The touchdown zone lights.

(e) Unless otherwise authorized by the Administrator, each pilot operating an aircraft shall immediately execute an appropriate missed approach whenever, prior to touchdown, the requirements of paragraph (d) of this section are not met.

(f) No person operating an aircraft using a Category III approach without decision height may land that aircraft except in accordance with the provisions of the letter of authorization issued by the Administrator.

(g) Paragraphs (a) through (f) of this section do not apply to operations conducted by the holders of certificates issued under Part 121, 125, 129, or 135 of this chapter. No person may operate a civil aircraft in a Category II or Category III operation conducted by the holder of a certificate issued under Part 121, 125, 129, or 135 of this chapter unless the operation is conducted in accordance with that certificate holder's operations specifications.

### § 91.191 Category II manual.

(a) No person may operate a civil aircraft of United States registry in a Category II operation unless—

(1) There is available in the aircraft a current, approved Category II manual for that aircraft;

(2) The operation is conducted in accordance with the procedures, instructions, and limitations in that manual; and

(3) The instruments and equipment listed in the manual that are required for a particular Category II operation have been inspected and maintained in accordance with the maintenance program contained in that manual.

(b) Each operator shall keep a current copy of the approved manual at its principal base of operations and shall make it available for inspection upon request of the Administrator.

(c) This section does not apply to operations conducted by the holder of a certificate issued under Part 121 of this chapter.

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### § 91.193 Certificate of authorization for certain Category II operations.

The Administrator may issue a certificate of authorization authorizing deviations from the requirements of §§ 91.189, 91.191, and 91.205 (f) for the operation of small aircraft identified as Category A aircraft in § 97.3 of this chapter in Category II operations if the Administrator finds that the proposed operation can be safely conducted under the terms of the certificate. Such authorization does not permit operation of the aircraft carrying persons or property for compensation or hire.

### §§ 91.195—91.199 [Reserved]

## Subpart C—Equipment, Instrument, and Certificate Requirements

### § 91.201 [Reserved]

### § 91.203 Civil aircraft: Certifications required.

(a) Except as provided in § 91.715, no person may operate a civil aircraft unless it has within it the following:

(1) An appropriate and current airworthiness certificate. Each U.S. airworthiness certificate used to comply with this subparagraph (except a special flight permit, a copy of the applicable operations specifications issued under § 21.197(c) of this chapter, appropriate sections of the air carrier manual required by Parts 121 and 135 of this chapter containing that portion of the operations specifications issued under § 21.197(c), or an authorization under § 91.611), must have on it the registration number assigned to the aircraft under Part 47 of this chapter. However, the airworthiness certificate need not have on it an assigned special identification number before 10 days after that number is first affixed to the aircraft. A revised airworthiness certificate having on it an assigned special identification number, that has been affixed to an aircraft, may only be obtained upon application to an FAA Flight Standards district office.

(2) An effective U.S. registration certificate issued to its owner or, for operaton within the United States, the second duplicate copy (pink) of the Aircraft Registration Application as provided for § 47.31(b), or a registration certificate issued under the laws of a foreign country.

(b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under § 91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

(c) No person may operate an aircraft with a fuel tank installed within the passenger compartment or a baggage compartment unless the installation was accomplished pursuant to Part 43 of this chapter, and a copy of FAA Form 337 authorizing that installation is on board the aircraft.

### § 91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.

(a) *General.* Except as provided in paragraphs (c) (3) and (e) of this section, no person may operate a powered civil aircraft with a standard category U.S. airworthiness certificate in any operation described in paragraphs (b) through (f) of this section unless that aircraft contains the instruments and equipment specified in those paragraphs (or FAA-approved equivalents) for that type of operation, and those instruments and items of equipment are in operable condition.

(b) *Visual-flight rules (day).* For VFR flight during the day, the following instruments and equipment are required:

(1) Airspeed indicator.

(2) Altimeter.

(3) Magnetic direction indicator.

(4) Tachometer for each engine.

(5) Oil pressure gauge for each engine using pressure system.

(6) Temperature gauge for each liquid-cooled engine.

(7) Oil temperature gauge for each air-cooled engine.

(8) Manifold pressure gauge for each altitude engine.

(9) Fuel gauge indicating the quantity of fuel in each tank.

(10) Landing gear position indicator, if the aircraft has a retractable landing gear.

(11) If the aircraft is operated for hire over water and beyond power-off gliding distance from shore, approved flotation gear readily available to each occupant and at least one pyrotechnic signaling device. As used in this section, "shore" means that area of the land adjacent to the water which is above the high water mark and excludes land areas which are intermittently under water.

(12) Except as to airships, an approved safety belt with an approved metal-to-metal latching device for each occupant 2 years of age or older.

(13) For small civil airplanes manufactured after July 18, 1978, an approved shoulder harness for each front seat. The shoulder harness must be designed to protect the occupant from serious head injury when the occupant experiences the ultimate inertia forces specified in § 23.561(b)(2) of this chapter. Each shoulder harness installed at a flight crewmember station must permit the crewmember, when seated and with his safety belt and shoulder harness fastened, to perform all functions necessary for flight operations. For purposes of this paragraph—

(i) The date of manufacture of an airplane is the date the inspection acceptance records reflect that the airplane is complete and meets the FAA-approved type design data; and

(ii) A front seat is a seat located at a flight crewmember station or any seat located alongside such a seat.

(14) An emergency locator transmitter, if required by § 91.207.

(15) For normal, utility, and acrobatic category airplanes with a seating configuration, excluding pilot seats, of 9 or less, manufactured after December 12, 1986, a shoulder harness for—

(i) Each front seat that meets the requirements of § 23.785(g) and (h) of this chapter in effect on December 12, 1985;

(ii) Each additional seat that meets the requirements of § 23.785(g) of this chapter in effect on December 12, 1985.

(c) *Visual flight rules (night).* For VFR flight at night, the following instruments and equipment are required:

(1) Instruments and equipment specified in paragraph (b) of this section.

(2) Approved position lights.

(3) An approved aviation red or aviation white anticollision light system on all U.S.-registered civil aircraft. Anticollision light systems initially installed after August 11, 1971, on aircraft for which a type certificate was issued or applied for before August 11, 1971, must at least meet the anticollision light standards of Part 23, 25, 27, or 29 of this chapter, as applicable, that were in effect on August 10, 1971, except that the color may be either aviation red or aviation white. In the event of failure of any light of the anticollision light system, operations with the aircraft may be continued to a stop where repairs or replacement can be made.

(4) If the aircraft is operated for hire, one electric landing light.

(5) An adequate source of electrical energy for all installed electrical and radio equipment.

(6) One spare set of fuses, or three spare fuses of each kind required, that are accessible to the pilot in flight.

(d) *Instrument flight rules.* For IFR flight, the following instruments and equipment are required:

(1) Instruments and equipment specified in paragraph (b) of this section, and, for night flight, instruments and equipment specified in paragraph (c) of this section.

(2) Two-way radio communications system and navigational equipment appropriate to the ground facilities to be used.

(3) Gyroscopic rate-of-turn indicator, except on the following aircraft:

(i) Large airplanes with a third attitude instrument system usable through flight attitudes of 360 degrees of pitch and roll and installed in accordance with § 121.305(j) of this chapter; and

(ii) Rotorcraft with a third attitude instrument system usable through flight attitudes of ±80 degrees of pitch and ±120 degrees of roll and installed in accordance with § 29.1303(g) of this chapter.

(4) Slip-skid indicator.

(5) Sensitive altimeter adjustable for barometric pressure.

(6) A clock displaying hours, minutes, and seconds with a sweep-second pointer or digital presentation.

(7) Generator or alternator of adequate capacity.

(8) Gyroscopic pitch and bank indicator (artificial horizon).

(9) Gyroscopic direction indicator (directional gyro or equivalent).

(e) *Flight at and above 24,000 ft. MSL (FL 240).* If VOR navigational equipment is required under paragraph (d) (2) of this section, no person may operate a U.S.-registered civil aircraft within the 50 states and the District of Columbia at or above FL 240 unless that aircraft is equipped with approved distance measuring equipment (DME). When DME required by this paragraph fails at and above FL 240, the pilot in command of the aircraft shall notify ATC immediately, and then may continue operations at and above FL 240 to the next airport of intended landing at which repairs or replacement of the equipment can be made.

(f) *Category II operations.* For Category II operations the instruments and equipment specified in paragraph (d) of this section and Appendix A to this part are required. This paragraph does not apply to operations conducted by the holder of a certificate issued under Part 121 of this chapter.

### § 91.207 Emergency locator transmitters.

(a) Except as provided in paragraphs (d) and (e) of this section, no person may operate a U.S.-registered civil airplane unless—

(1) There is attached to the airplane an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO-C91 for the following operations:

(i) Those operations governed by the supplemental air carrier and commercial operator rules of Parts 121 and 125;

(ii) Charter flights governed by the domestic and flag air carrier rules of Part 121 of this chapter; and

(iii) Operations governed by Part 135 of this chapter; or

(2) For operations other than those specified in paragraph (a)(1)(i) of this section, there must be attached to the airplane a personal type or an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO-C91.

(b) Each emergency locator transmitter required by paragraph (a) of this section must be attached to the airplane in such a manner that the probability of damage to the transmitter in the event of crash impact is minimized. Fixed and deployable automatic type transmitters must be attached to the airplane as far aft as practicable.

(c) Batteries used in the emergency locator transmitters required by paragraphs (a) and (b) of this section must be replaced (or recharged, if the batteries are rechargeable)—

(1) When the transmitter has been in use for more than one cumulative hour; or

(2) When 50 percent of their useful life (or, for rechargeable batteries, 50 percent of their useful life of charge), as established by the transmitter manufacturer under TSO-C91, paragraph (g)(2), of this section, has expired.

The new expiration date for the replacing (or recharging) of the battery must be legibly marked on the outside of the transmitter and entered in the aircraft maintenance record. Paragraph (c) (2) of this section does not apply to batteries (such as water-activated batteries) that are essentially unaffected during probable storage intervals.

(d) Notwithstanding paragraph (a) of this section, a person may—

(1) Ferry a newly acquired airplane from the place where possession of it was taken to a place where the emergency locator transmitter is to be installed; and

(2) Ferry an airplane with an inoperative emergency locator transmitter from a place where repairs or replacements cannot be made to a place where they can be made.

No person other than required crewmembers may be carried aboard an airplane being ferried under paragraph (d) of this section.

(e) Paragraph (a) of this section does not apply to—

(1) Turbojet-powered aircraft;

(2) Aircraft while engaged in scheduled flights by scheduled air carriers;

(3) Aircraft while engaged in training operations conducted entirely within a 50-nautical mile radius of the airport from which such local flight operations began;

(4) Aircraft while engaged in flight operations incident to design and testing;

(5) New aircraft while engaged in flight operations incident to their manufacture, preparation, and delivery;

(6) Aircraft while engaged in flight operations incident to the aerial application of chemicals and other substances for agricultural purposes;

(7) Aircraft certificated by the Administrator for research and development purposes;

(8) Aircraft while used for showing compliance with regulations, crew training, exhibition, air racing, or market surveys;

(9) Aircraft equipped to carry not more than one person; and

(10) An aircraft during any period for which the transmitter has been temporarily removed for inspection, repair, modification, or replacement, subject to the following:

(i) No person may operate the aircraft unless the aircraft records contain an entry which includes the date of initial removal, the make, model, serial number, and reason for removing the transmitter, and a placard is located in view of the pilot to show "ELT not installed."

(ii) No person may operate the aircraft more than 90 days after the ELT is initially removed from the aircraft.

**§ 91.209 Aircraft lights.**

No person may, during the period from sunset to sunrise (or, in Alaska, during the period a prominent unlighted object cannot be seen from a distance of 3 statute miles or the sun is more than 6 degrees below the horizon)—

(a) Operate an aircraft unless it has lighted position lights;

(b) Park or move an aircraft in, or in dangerous proximity to, a night flight operations area of an airport unless the aircraft—

(1) Is clearly illuminated;

(2) Has lighted position lights; or

(3) Is in an area which is marked by obstruction lights;

(c) Anchor an aircraft unless the aircraft—

(1) Has lighted anchor lights; or

(2) Is in an area where anchor lights are not required on vessels; or

(d) Operate an aircraft, required by § 91.205(c) (3) to be equipped with an anticollision light system, unless it has approved and lighted aviation red or aviation white anticollision lights. However, the anticollision lights need not be lighted when the pilot in command determines that, because of operating conditions, it would be in the interest of safety to turn the lights off.

**§ 91.211 Supplemental oxygen.**

(a) *General.* No person may operate a civil aircraft of U.S. registry—

(1) At cabin pressure altitudes above 12,500 feet (MSL) up to and including 14,000 feet (MSL), unless the required minimum flight crew is provided with and uses supplemental oxygen for that part of the flight at those altitudes that is of more than 30 minutes duration;

(2) At cabin pressure altitudes above 14,000 feet (MSL) unless the required minimum flight crew is provided with and uses supplemental oxygen during the entire flight time at those altitudes; and

(3) At cabin pressure altitudes above 15,000 feet (MSL) unless each occupant of the aircraft is provided with supplemental oxygen.

(b) *Pressurized cabin aircraft.*

(1) No person may operate a civil aircraft of U.S. registry with a pressurized cabin—

(i) At flight altitudes above flight level 250 unless at least a 10-minute supply of supplemental oxygen, in addition to any oxygen required to satisfy paragraph (a) of this section, is available for each occupant of the aircraft for use in the event that a descent is necessitated by loss of cabin pressurization; and

(ii) At flight altitudes above flight level 350 unless one pilot at the controls of the airplane is wearing and using an oxygen mask that is secured and sealed and that either supplies oxygen at all times or automatically supplies oxygen whenever the cabin pressure altitude of the airplane

exceeds 14,000 feet (MSL), except that the one pilot need not wear and use an oxygen mask while at or below flight level 410 if there are two pilots at the controls and each pilot has a quick-donning type of oxygen mask that can be placed on the face with one hand from the ready position within 5 seconds, supplying oxygen and properly secured and sealed.

(2) Notwithstanding paragraph (b)(1)(ii) of this section, if for any reason at any time it is necessary for one pilot to leave the controls of the aircraft when operating at flight altitudes above flight level 350, the remaining pilot at the controls shall put on and use an oxygen mask until the other pilot has returned to that crewmember's station.

**§ 91.213 Inoperative instruments and equipment.**

(a) Except as provided in paragraph (d) of this section, no person may take off an aircraft with inoperative instruments or equipment installed unless the following conditions are met:

(1) An approved Minimum Equipment List exists for that aircraft.

(2) The aircraft has within it a letter of authorization, issued by the FAA Flight Standards district office having jurisdiction over the area in which the operator is located, authorizing operation of the aircraft under the Minimum Equipment List. The letter of authorization may be obtained by written request of the airworthiness certificate holder. The Minimum Equipment List and the letter of authorization constitute a supplemental type certificate for the aircraft.

(3) The approved Minimum Equipment List must—

(i) Be prepared in accordance with the limitations specified in paragraph (b) of this section; and

(ii) Provide for the operation of the aircraft with the instruments and equipment in an inoperable condition.

(4) The aircraft records available to the pilot must include an entry describing the inoperable instruments and equipment.

(5) The aircraft is operated under all applicable conditions and limitations contained in the Minimum Equipment List and the letter authorizing the use of the list.

(b) The following instruments and equipment may not be included in a Minimum Equipment List:

(1) Instruments and equipment that are either specifically or otherwise required by the airworthiness requirements under which the aircraft is type certificated and which are essential for safe operations under all operating conditions.

(2) Instruments and equipment required by an airworthiness directive to be in operable condition unless the airworthiness directive provides otherwise.

(3) Instruments and equipment required for specific operations by this part.

(c) A person authorized to use an approved Minimum Equipment List issued for a specific aircraft under Part 121, 125, or 135 of this chapter shall use that Minimum Equipment List in connection with operations conducted with that aircraft under this part without additional approval requirements.

(d) Except for operations conducted in accordance with paragraph (a) or (c) of this section, a person may takeoff an aircraft in operations conducted under this part with inoperative instruments and equipment without an approved Minimum Equipment List provided—

(1) The flight operation is conducted in a—

(i) Rotorcraft, nonturbine-powered airplane, glider, or lighter-than-air aircraft for which a master Minimum Equipment List has not been developed; or

(ii) Small rotorcraft, nonturbine-powered small airplane, glider, or lighter-than-air aircraft for which a master Minimum Equipment List has been developed; and

(2) The inoperative instruments and equipment are not—

(i) Part of the VFR-day type certification instruments and equipment prescribed in the applicable airworthiness regulations under which the aircraft was type certificated;

(ii) Indicated as required on the aircraft's equipment list, or on the Kinds of Operations Equipment List for the kind of flight operations being conducted;

(iii) Required by § 91.205 or any other rule of this part for the specific kind of flight operation being conducted; or

(iv) Required to be operational by an airworthiness directive; and

(3) The inoperative instruments and equipment are—

(i) Removed from the aircraft, the cockpit control placarded, and the maintenance recorded in accordance with § 43.9 of this chapter; or

(ii) Deactivated and placarded "Inoperative." If deactivation of the inoperative instrument or equipment involves maintenance, it must be accomplished and recorded in accordance with Part 43 of this chapter; and

(4) A determination is made by a pilot, who is certificated and appropriately rated under Part 61 of this chapter, or by a person, who is certificated and appropriately rated to perform maintenance on the aircraft, that the inoperative instrument or equipment does not constitute a hazard to the aircraft. An aircraft with inoperative instruments or equipment as provided in paragraph (d) of this section is considered to be in a properly altered condition acceptable to the Administrator.

(e) Notwithstanding any other provision of this section, an aircraft with inoperable instruments or equipment may be operated under a special flight permit issued in accordance with §§ 21.197 and 21.199 of this chapter.

### § 91.215 ATC transponder and altitude reporting equipment and use.

(a) *All airspace: U. S.-registered civil aircraft.* For operations not conducted under Part 121, 127, or 135 of this chapter, ATC transponder equipment installed within the time periods indicated below must meet the performance and environmental requirements of the following TSO's:

(1) *Through July 1, 1992:*

(i) Any class of TSO–C74b or any class of TSO–C74c as appropriate, provided that the equipment was manufactured before January 1, 1991; or

(ii) The appropriate class of TSO–C112 (Mode S).

(2) *After July 1, 1992:* The appropriate class of TSO–C112 (Mode S). For purposes of paragraph (a)(2) of this section, "installation" does not include—

(i) Temporary installation of TSO–C74b or TSO–C74c substitute equipment, as appropriate, during maintenance of the permanent equipment;

(ii) Reinstallation of equipment after temporary removal for maintenance; or

(iii) For fleet operations, installation of equipment in a fleet aircraft after removal of the equipment for maintenance from another aircraft in the same operator's fleet.

(b) *All Airspace:* No person may operate an aircraft in the airspace described in paragraphs (b)(1) through (b)(5) of this section, unless that aircraft is equipped with an operable coded radar beacon transponder having either a Mode 3/A 4096 code capability, replying to Mode 3/A interrogations with the code specified by ATC, or a Mode S capability, replying to Mode 3/A interrogations with the code specified by ATC and intermode and Mode S interrogations in accordance with the applicable provisions specified in TSO C–112, and that aircraft is equipped with automatic pressure altitude reporting equipment having a Mode C capability that automatically replies to Mode C interrogations by transmitting pressure altitude information in 100-foot increments. This requirement applies—

(1) *All aircraft.* In terminal control areas and positive control areas;

(2) *Effective July 1, 1989—All aircraft.* In all airspace within 30 nautical miles of a terminal control area primary airport from the surface upward to 10,000 feet MSL;

(3) *Effective July 1, 1989.* Notwithstanding paragraph (b)(2) of this section, any aircraft which was not originally certificated with an engine-driven electrical system or which has not subsequently been certified with such a system installed, balloon, or glider may conduct operations in the airspace within 30 nautical miles of a terminal control area primary airport provided such operations are conducted—

(i) Outside any terminal control area and positive control area; and

(ii) Below the altitude of the terminal control area ceiling or 10,000 feet MSL whichever is lower; and

(4) *Effective December 30, 1990—All aircraft.*

(i) In the airspace of an airport radar service area, and

(ii) In all airspace above the ceiling and within the lateral boundaries of an airport radar service area upward to 10,000 feet MSL; and

(5) *All aircraft except any aircraft which was not originally certificated with an engine-driven electrical system or which has not subsequently been certified with such a system installed, balloon, or glider.*

(i) In all airspace of the 48 contiguous states and the District of Columbia:

(A) *Through June 30, 1989.* Above 12,500 feet MSL and below the floor of a positive control area, excluding the airspace at and below 2,500 feet AGL.

(B) *Effective July 1, 1989.* At and above 10,000 feet MSL and below the floor of a positive control area, excluding the airspace at and below 2,500 feet AGL; and

(ii) *Effective December 30, 1990.* In the airspace from the surface to 10,000 feet MSL within a 10-nautical-mile radius of any airport listed in Appendix D of this part excluding the airspace below 1,200 feet AGL outside of the airport traffic area for that airport.

(c) *Transponder-on operation.* While in the airspace as specified in paragraph (b) of this section or in all controlled airspace, each person operating an aircraft equipped with an operable ATC transponder maintained in accordance with § 91.413 of this part shall operate the transponder, including Mode C equipment if installed, and shall reply on the appropriate code or as assigned by ATC.

(d) *ATC authorized deviations.* ATC may authorize deviations from paragraph (b) of this section—

(1) Immediately, to allow an aircraft with an inoperative transponder to continue to the airport of ultimate destination, including any intermediate stops, or to proceed to a place where suitable repairs can be made or both;

(2) Immediately, for operations of aircraft with an operating transponder but without operating automatic pressure altitude reporting equipment having a Mode C capability; and

(3) On a continuing basis, or for individual flights, for operations of aircraft without a transponder, in which case the request for a deviation must be submitted to the ATC facility having jurisdiction over the airspace concerned at least one hour before the proposed operation.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### § 91.217 Data correspondence between automatically reported pressure altitude data and the pilot's altitude reference.

No person may operate any automatic pressure altitude reporting equipment associated with a radar beacon transponder—

(a) When deactivation of that equipment is directed by ATC;

(b) Unless, as installed, that equipment was tested and calibrated to transmit altitude data corresponding within 125 feet (on a 95 percent probability basis) of the indicated or calibrated datum of the altimeter normally used to maintain flight altitude, with that altimeter referenced to 29.92 inches of mercury for altitudes from sea level to the maximum operating altitude of the aircraft; or

(c) Unless the altimeters and digitizers in that equipment meet the standards of TSO–C10b and TSO–C88, respectively.

### § 91.219 Altitude alerting system or device: Turbojet-powered civil airplanes.

(a) Except as provided in paragraph (d) of this section, no person may operate a turbojet-powered U.S.-registered civil airplane unless that airplane is equipped with an approved altitude alerting system or device that is in operable condition and meets the requirements of paragraph (b) of this section.

(b) Each altitude alerting system or device required by paragraph (a) of this section must be able to—

(1) Alert the pilot—

(i) Upon approaching a preselected altitude in either ascent or descent, by a sequence of both aural and visual signals in sufficient time to establish level flight at that preselected altitude; or

(ii) Upon approaching a preselected altitude in either ascent or descent, by a sequence of visual signals in sufficient time to establish level flight at that preselected altitude, and when deviating above and below that preselected altitude, by an aural signal;

(2) Provide the required signals from sea level to the highest operating altitude approved for the airplane in which it is installed;

(3) Preselect altitudes in increments that are commensurate with the altitudes at which the aircraft is operated;

(4) Be tested without special equipment to determine proper operation of the alerting signals; and

(5) Accept necessary barometric pressure settings if the system or device operates on barometric pressure.

However, for operations below 3,000 feet AGL, the system or device need only provide one signal, either visual or aural, to comply with this paragraph. A radio altimeter may be included to provide the signal if the operator has an approved procedure for its use to determine DH or MDA, as appropriate.

(c) Each operator to which this section applies must establish and assign procedures for the use of the altitude alerting system or device and each flight crewmember must comply with those procedures assigned to him.

(d) Paragraph (a) of this section does not apply to any operation of an airplane that has an experimental certificate or to the operation of any airplane for the following purposes:

(1) Ferrying a newly acquired airplane from the place where possession of it was taken to a place where the altitude alerting system or device is to be installed.

(2) Continuing a flight as originally planned, if the altitude alerting system or device becomes inoperative after the airplane has taken off; however, the flight may not depart from a place where repair or replacement can be made.

(3) Ferrying an airplane with any inoperative altitude alerting system or device from a place where repairs or replacements cannot be made to a place where it can be made.

(4) Conducting an airworthiness flight test of the airplane.

(5) Ferrying an airplane to a place outside the United States for the purpose of registering it in a foreign country.

(6) Conducting a sales demonstration of the operation of the airplane.

(7) Training foreign flight crews in the operation of the airplane before ferrying it to a place outside the United States for the purpose of registering it in a foreign country.

### § 91.221 Traffic alert and collision avoidance system equipment and use.

(a) *All airspace*: U.S.-registered civil aircraft. Any traffic alert and collision avoidance system installed in a U.S.-registered civil aircraft must be approved by the Administrator.

(b) *Traffic alert and collision avoidance system, operation required.* Each person operating an aircraft equipped with an operable traffic alert and collision avoidance system shall have that system on and operating.

### §§ 91.223—91.299 [Reserved]

## Subpart D—Special Flight Operations

### § 91.301 [Reserved]

### § 91.303 Aerobatic flight.

No person may operate an aircraft in aerobatic flight—

(a) Over any congested area of a city, town, or settlement;

(b) Over an open air assembly of persons;

(c) Within a control zone or Federal airway;

(d) Below an altitude of 1,500 feet above the surface; or

(e) When flight visibility is less than three statute miles.

For the purposes of this section, aerobatic flight means an intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight.

### § 91.305 Flight test areas.

No person may flight test an aircraft except over open water, or sparsely populated areas, having light air traffic.

### § 91.307 Parachutes and parachuting.

(a) No pilot of a civil aircraft may allow a parachute that is available for emergency use to be carried in that aircraft unless it is an approved type and—

(1) If a chair type (canopy in back), it has been packed by a certificated and appropriately rated parachute rigger within the preceding 120 days; or

(2) If any other type, it has been packed by a certificated and appropriately rated parachute rigger—

(i) Within the preceding 120 days, if its canopy, shrouds, and harness are composed exclusively of nylon, rayon, or other similar synthetic fiber or materials that are substantially resistant to damage from mold, mildew, or other fungi and other rotting agents propagated in a moist environment; or

(ii) Within the preceding 60 days, if any part of the parachute is composed of silk, pongee, or other natural fiber, or materials not specified in paragraph (a)(2)(i) of this section.

(b) Except in an emergency, no pilot in command may allow, and no person may make, a parachute jump from an aircraft within the United States except in accordance with Part 105.

(c) Unless each occupant of the aircraft is wearing an approved parachute, no pilot of a civil aircraft carrying any person (other than a crewmember) may execute any intentional maneuver that exceeds—

(1) A bank of 60 degrees relative to the horizon; or

(2) A nose-up or nose-down attitude of 30 degrees relative to the horizon.

(d) Paragraph (c) of this section does not apply to—

(1) Flight tests for pilot certification or rating; or

(2) Spins and other flight maneuvers required by the regulations for any certificate or rating when given by—

(i) A certificated flight instructor; or

(ii) An airline transport pilot instructing in accordance with § 61.169 of this chapter.

(e) For the purposes of this section, "approved parachute" means—

(1) A parachute manufactured under a type certificate or a technical standard order (C–23 series); or

(2) A personnel-carrying military parachute identified by an NAF, AAF, or AN drawing number, an AAF order number, or any other military designation or specification number.

### § 91.309 Towing: Gliders.

(a) No person may operate a civil aircraft towing a glider unless—

(1) The pilot in command of the towing aircraft is qualified under § 61.69 of this chapter;

(2) The towing aircraft is equipped with a tow-hitch of a kind, and installed in a manner, that is approved by the Administrator;

(3) The towline used has breaking strength not less than 80 percent of the maximum certificated operating weight of the glider and not more than twice this operating weight. However, the towline used may have a breaking strength more than twice the maximum certificated operating weight of the glider if—

(i) A safety link is installed at the point of attachment of the towline to the glider with a breaking strength not less than 80 percent of the maximum certificated operating weight of the glider and not greater than twice this operating weight.

(ii) A safety link is installed at the point of attachment of the towline to the towing aircraft with a breaking strength greater, but

not more than 25 percent greater, than that of the safety link at the towed glider end of the towline and not greater than twice the maximum certificated operating weight of the glider;

(4) Before conducting any towing operation within a control zone, or before making each towing flight within a control zone if required by ATC, the pilot in command notifies the control tower if one is in operation in that control zone. If such a control tower is not in operation, the pilot in command must notify the FAA Flight Service Station serving the control zone before conducting any towing operation in that control zone; and

(5) The pilots of the towing aircraft and the glider have agreed upon a general course of action, including takeoff and release signals, airspeeds, and emergency procedures for each pilot.

(b) No pilot of a civil aircraft may intentionally release a towline, after release of a glider, in a manner that endangers the life or property of another.

### § 91.311 Towing: Other than under § 91.309.

(a) No pilot of a civil aircraft may tow anything with that aircraft (other than under § 91.309) except in accordance with the terms of a certificate of waiver issued by the Administrator.

### § 91.313 Restricted category civil aircraft: Operating limitations.

(a) No person may operate a restricted category civil aircraft—

(1) For other than the special purpose for which it is certificated; or

(2) In an operation other than one necessary to accomplish the work activity directly associated with that special purpose.

(b) For the purpose of paragragh (a), operating a restricted category civil aircraft to provide flight crewmember training in a special purpose operation for which the aircraft is certificated is considered to be an operation for that special purpose.

(c) No person may operate a restricted category civil aircraft carrying persons or property for compensation or hire. For the purposes of this paragraph, a special purpose operation involving the carriage of persons or material necessary to accomplish that operation, such as crop dusting, seeding, spraying, and banner towing (including the carrying of required persons or material to the location of that operation), and operation for the purpose of providing flight crewmember training in a special purpose operation, are not considered to be the carriage of persons or property for compensation or hire.

(d) No person may be carried on a restricted category civil aircraft unless that person—

(1) Is a flight crewmember;

(2) Is a flight crewmember trainee;

(3) Performs an essential function in connection with a special purpose operation for which the aircraft is certificated; or

(4) Is necessary to accomplish the work activity directly associated with that special purpose.

(e) Except when operating in accordance with the terms and conditions of a certificate of waiver or special operating limitations issued by the Administrator, no person may operate a restricted category civil aircraft within the United States—

(1) Over densely populated area;

(2) In a congested airway; or

(3) Near a busy airport where passenger transport operations are conducted.

(f) This section does not apply to nonpassenger-carrying civil rotorcraft external-load operations conducted under Part 133 of this chapter.

(g) No person may operate a small restricted-category civil airplane manufactured after July 18, 1978, unless an approved shoulder harness is installed for each front seat. The shoulder harness must be designed to protect each occupant from serious head injury when the occupant experiences the ultimate inertia forces specified in § 23.561(b)(2) of this chapter. The shoulder harness installation at each flight crewmember station must permit the crewmember, when seated and with the safety belt

and shoulder harness fastened, to perform all functions necessary for flight operation. For purposes of this paragraph—

(1) The date of manufacture of an airplane is the date the inspection acceptance records reflect that the airplane is complete and meets the FAA-approved type design data; and

(2) A front seat is a seat located at a flight crewmember station or any seat located alongside such a seat.

### § 91.315 Limited category civil aircraft: Operating limitations.

No person may operate a limited category civil aircraft carrying persons or property for compensation or hire.

### § 91.317 Provisionally certificated civil aircraft: Operating limitations.

(a) No person may operate a provisionally certificated civil aircraft unless that person is eligible for a provisional airworthiness certificate under § 21.213 of this chapter.

(b) No person may operate a provisionally certificated civil aircraft outside the United States unless that person has specific authority to do so from the Administrator and each foreign country involved.

(c) Unless otherwise authorized by the Director of Airworthiness, no person may operate a provisionally certificated civil aircraft in air transportation.

(d) Unless otherwise authorized by the Administrator, no person may operate a provisionally certificated civil aircraft except—

(1) In direct conjunction with the type or supplemental type certification of that aircraft;

(2) For training flight crews, including simulated air carrier operations;

(3) Demonstration flight by the manufacturer for prospective purchasers;

(4) Market surveys by the manufacturer;

(5) Flight checking of instruments, accessories, and equipment that do not affect the basic airworthiness of the aircraft; or

(6) Service testing of the aircraft.

(e) Each person operating a provisionally certificated civil aircraft shall operate within the prescribed limitations displayed in the aircraft or set forth in the provisional aircraft flight manual or other appropriate document. However, when operating in direct conjunction with the type or supplemental type certification of the aircraft, that person shall operate under the experimental aircraft limitations of § 21.191 of this chapter and when flight testing, shall operate under the requirements of § 91.305 of this part.

(f) Each person operating a provisionally certificated civil aircraft shall establish approved procedures for—

(1) The use and guidance of flight and ground personnel in operating under this section; and

(2) Operating in and out of airports where takeoffs or approaches over populated areas are necessary.

No person may operate that aircraft except in compliance with the approved procedures.

(g) Each person operating a provisionally certificated civil aircraft shall ensure that each flight crewmember is properly certificated and has adequate knowledge of, and familiarity with, the aircraft and procedures to be used by that crewmember.

(h) Each person operating a provisionally certificated civil aircraft shall maintain it as required by applicable regulations and as may be specially prescribed by the Administrator.

(i) Whenever the manufacturer, or the Administrator, determines that a change in design, construction, or operation is necessary to ensure safe operation, no person may operate a provisionally certificated civil aircraft until that change has been made and approved. Section 21.99 of this chapter applies to operations under this section.

(j) Each person operating a provisionally certificated civil aircraft—

(1) May carry in that aircraft only persons who have a proper interest in the operations allowed by this section or who are specifically authorized by both the manufacturer and the Administrator; and

(2) Shall advise each person carried that the aircraft is provisionally certificated.

(k) The Administrator may prescribe additional limitations or procedures that the Administrator considers necessary, including limitations on the number of persons who may be carried in the aircraft.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### § 91.319 Aircraft having experimental certificates: Operating limitations.

(a) No person may operate an aircraft that has an experimental certificate—

(1) For other than the purpose for which the certificate was issued; or

(2) Carrying persons or property for compensation or hire.

(b) No person may operate an aircraft that has an experimental certificate outside of an area assigned by the Administrator until it is shown that—

(1) The aircraft is controllable throughout its normal range of speeds and throughout all the maneuvers to be executed; and

(2) The aircraft has no hazardous operating characteristics or design features.

(c) Unless otherwise authorized by the Administrator in special operating limitations, no person may operate an aircraft that has an experimental certificate over a densely populated area or in a congested airway. The Administrator may issue special operating limitations for particular aircraft to permit takeoffs and landings to be conducted over a densely populated area or in a congested airway, in accordance with terms and conditions specified in the authorization in the interest of safety in air commerce.

(d) Each person operating an aircraft that has an experimental certificate shall—

(1) Advise each person carried of the experimental nature of the aircraft;

(2) Operate under VFR, day only, unless otherwise specifically authorized by the Administrator; and

(3) Notify the control tower of the experimental nature of the aircraft when operating the aircraft into or out of airports with operating control towers.

(e) The Administrator may prescribe additional limitations that the Administrator considers necessary, including limitations on the persons that may be carried in the aircraft.

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### § 91.321 Carriage of candidates in Federal elections.

(a) An aircraft operator, other than one operating an aircraft under the rules of Part 121, 125, or 135 of this chapter, may receive payment for the carriage of a candidate in a Federal election, an agent of the candidate, or a person traveling on behalf of the candidate, if—

(1) That operator's primary business is not as an air carrier or commercial operator;

(2) The carriage is conducted under the rules of this Part 91; and

(3) The payment for the carriage is required, and does not exceed the amount required to be paid, by regulations of the Federal Election Commission (11 CFR *et seq.*).

(b) For the purposes of this section, the terms "candidate" and "election" have the same meaning as that set forth in the regulations of the Federal Election Commission.

### § 91.323 Increased maximum certificated weights for certain airplanes operated in Alaska.

(a) Notwithstanding any other provision of the Federal Aviation Regulations, the Administrator will approve, as provided in this section, an increase in the maximum certificated weight of an airplane type certificated under Aeronautics Bulletin No. 7-A of the U.S. Department of Commerce dated January 1, 1931, as amended, or under the normal category of Part 4a of the former Civil Air Regulations (14 CFR 4a, 1964 ed.) if that airplane is operated in the State of Alaska by—

(1) An air taxi operator or other air carrier; or

(2) The U.S. Department of Interior in conducting its game and fish law enforcement activities or its management, fire detection, and fire suppression activities concerning public lands.

(b) The maximum certificated weight approved under this section may not exceed—

(1) 12,500 pounds;

(2) 115 percent of the maximum weight listed in the FAA aircraft specifications;

(3) The weight at which the airplane meets the positive maneuvering load factor requirement for the normal category specified in § 23.337 of this chapter; or

(4) The weight at which the airplane meets the climb performance requirements under which it was type certificated.

(c) In determining the maximum certificated weight, the Administrator considers the structural soundness of the airplane and the terrain to be traversed.

(d) The maximum certificated weight determined under this section is added to the airplane's operation limitations and is identified as the maximum weight authorized for operation within the State of Alaska.

**§§ 91.325—91.399 [Reserved]**

## Subpart E—Maintenance, Preventive Maintenance, and Alterations

### § 91.401 Applicability.

(a) This subpart prescribes rules governing the maintenance, preventive maintenance, and alterations of U.S.-registered civil aircraft operating within or outside of the United States.

(b) Sections 91.405, 91.409, 91.411, 91.417, and 91.419 of this subpart do not apply to an aircraft maintained in accordance with a continuous airworthiness maintenance program as provided in Part 121, 127, 129, or § 135.411(a) (2) of this chapter.

(c) Sections 91.405 and 91.409 of this part do not apply to an airplane inspected in accordance with Part 125 of this chapter.

### § 91.403 General.

(a) The owner or operator of an aircraft is primarily responsible for maintaining that aircraft in an airworthy condition, including compliance with Part 39 of this chapter.

(b) No person may perform maintenance, preventive maintenance, or alterations on an aircraft other than as prescribed in this subpart and other applicable regulations, including Part 43 of this chapter.

(c) No person may operate an aircraft for which a manufacturer's maintenance manual or instructions for continued airworthiness has been issued that contains an airworthiness limitations section unless the mandatory replacement times, inspection intervals, and related procedures specified in that section or alternative inspection intervals and related procedures set forth in an operations specification approved by the Administrator under Part 121, 127 or 135 of this chapter or in accordance with an inspection program approved under § 91.409(e) have been complied with.

### § 91.405 Maintenance required.

Each owner or operator of an aircraft—

(a) Shall have that aircraft inspected as prescribed in Subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in Part 43 of this chapter;

(b) Shall ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating the aircraft has been approved for return to service;

(c) Shall have any inoperative instrument or item of equipment, permitted to be inoperative by § 91.213(d)(2) of this part, repaired, replaced, removed, or inspected at the next required inspection; and

(d) When listed discrepancies include inoperative instruments or equipment, shall ensure that a placard has been installed as required by § 43.11 of this chapter.

### § 91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.

(a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless—

(1) It has been approved for return to service by a person authorized under § 43.7 of this chapter; and

(2) The maintenance record entry required by § 43.9 or § 43.11, as applicable, of this chapter has been made.

(b) No person may carry any person (other than crewmembers) in an aircraft that has been maintained, rebuilt, or altered in a manner that may have appreciably changed its flight characteristics or substantially affected its operation in flight until an appropriately rated pilot with at least a private pilot certificate flies the aircraft, makes an operational check of the maintenance performed or alteration made, and logs the flight in the aircraft records.

(c) The aircraft does not have to be flown as required by paragraph (b) of this section if, prior to flight, ground tests, inspections, or both show conclusively that the maintenance, preventive maintenance, rebuilding, or alteration has not appreciably changed the flight characteristics or substantially affected the flight operation of the aircraft.

(Approved by the Office of Management and Budget under OMB control number 2120–0005)

**§ 91.409 Inspections.**

(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—

(1) An annual inspection in accordance with Part 43 of this chapter and has been approved for return to service by a person authorized by § 43.7 of this chapter; or

(2) An inspection for the issue of an airworthiness certificate in accordance with Part 21 of this chapter.

No inspection performed under paragraph (b) of the section may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an "annual" inspection in the required maintenance records.

(b) Except as provided in paragraph (c) of this section, no person may operate an aircraft carrying any person (other than a crewmember) for hire, and no person may give flight instruction for hire in an aircraft which that person provides, unless within the preceding 100 hours of time in service the aircraft has received an annual or 100-hour inspection and been approved for return to service in accordance with Part 43 of this chapter or has received an inspection for the issuance of an airworthiness certificate in accordance with Part 21 of this chapter. The 100-hour limitation may be exceeded by not more than 10 hours while en route to reach a place where the inspection can be done. The excess time used to reach a place where the inspection can be done must be included in computing the next 100 hours of time in service.

(c) Paragraphs (a) and (b) of this section do not apply to—

(1) An aircraft that carries a special flight permit, a current experimental certificate, or a provisional airworthiness certificate;

(2) An aircraft inspected in accordance with an approved aircraft inspection program under Part 125, 127, or 135 of this chapter and so identified by the registration number in the operations specifications of the certificate holder having the approved inspection program;

(3) An aircraft subject to the requirements of paragraph (d) or (e) of this section; or

(4) Turbine-powered rotorcraft when the operator elects to inspect that rotorcraft in accordance with paragraph (e) of this section.

(d) *Progressive inspection.* Each registered owner or operator of an aircraft desiring to use a progressive inspection program must submit a written request to the FAA Flight Standards district office having jurisdiction over the area in which the applicant is located, and shall provide—

(1) A certificated mechanic holding an inspection authorization, a certificated airframe repair station, or the manufacturer of the aircraft to supervise or conduct the progressive inspection;

(2) A current inspection procedures manual available and readily understandable to pilot

and maintenance personnel containing, in detail—

(i) An explanation of the progressive inspection, including the continuity of inspection responsibility, the making of reports, and the keeping of records and technical reference material;

(ii) An inspection schedule, specifying the intervals in hours or days when routine and detailed inspections will be performed and including instructions for exceeding an inspection interval by not more than 10 hours while en route and for changing an inspection interval because of service experience;

(iii) Sample routine and detailed inspection forms and instructions for their use; and

(iv) Sample reports and records and instructions for their use;

(3) Enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and

(4) Appropriate current technical information for the aircraft.

The frequency and detail of the progressive inspection shall provide for the complete inspection of the aircraft within each 12 calendar months and be consistent with the manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged. The progressive inspection schedule must ensure that the aircraft, at all times, will be airworthy and will conform to all applicable FAA aircraft specifications, type certificate data sheets, airworthiness directives, and other approved data. If the progressive inspection is discontinued, the owner or operator shall immediately notify the local FAA Flight Standards district office, in writing, of the discontinuance. After the discontinuance, the first annual inspection under § 91.409(a)(1) is due within 12 calendar months after the last complete inspection of the aircraft under the progressive inspection. The 100-hour inspection under § 91.409(b) is due within 100 hours after that complete inspection. A complete inspection of the aircraft, for the purpose of determining when the annual and 100-hour inspections are due, requires a detailed inspection of the aircraft and all its components in accordance with the progressive inspection. A routine inspection of the aircraft and a detailed inspection of several components is not considered to be a complete inspection.

(e) *Large airplanes (to which Part 125 is not applicable), turbojet multiengine airplanes, turbopropeller-powered multiengine airplanes, and turbine-powered rotorcraft.* No person may operate a large airplane, turbojet multiengine airplane, or turbopropeller-powered multiengine airplane, or turbine-powered rotorcraft unless the replacement times for life-limited parts specified in the aircraft specifications, type data sheets, or other documents approved by the Administrator are complied with and the airplane or turbine-powered rotorcraft, including the airframe, engines, propellers, rotors, appliances, survival equipment, and emergency equipment, is inspected in accordance with an inspection program selected under the provisions of paragraph (f) of this section, except that, the owner or operator of a turbine-powered rotorcraft may elect to use the inspection provisions of § 91.409(a), (b), (c), or (d) in lieu of an inspection option of § 91.409(f).

(f) *Selection of inspection program under paragraph (e) of this section.* The registered owner or operator of each airplane or turbine-powered rotorcraft described in paragraph (e) of this section must select, identify in the aircraft maintenance records, and use one of the following programs for the inspection of the aircraft:

(1) A continuous airworthiness inspection program that is part of a continuous airworthiness maintenance program currently in use by a person holding an air carrier operating certificate or an operating certificate issued under Part 121, 127, or 135 of this chapter and operating that make and model aircraft under Part 121 of this chapter or operating that make and model under Part 135 of this chapter and maintaining it under § 135.411(a) (2) of this chapter.

(2) An approved aircraft inspection program approved under § 135.419 of this chapter and currently in use by a person holding an operating certificate issued under Part 135 of this chapter.

(3) A current inspection program recommended by the manufacturer.

(4) Any other inspection program established by the registered owner or operator of that airplane or turbine-powered rotorcraft and approved by the Administrator under paragraph (g) of this section. However, the Administrator may require revision of this inspection program in accordance with the provisions of § 91.415.

Each operator shall include in the selected program the name and address of the person responsible for scheduling the inspections required by the program and make a copy of that program available to the person performing inspections on the aircraft and, upon request, to the Administrator.

(g) *Inspection program approved under paragraph (e) of this section.* Each operator of an airplane or turbine-powered rotorcraft desiring to establish or change an approved inspection program under paragraph (f) (4) of this section must submit the program for approval to the local FAA Flight Standards district office having jurisdiction over the area in which the aircraft is based. The program must be in writing and include at least the following information:

(1) Instructions and procedures for the conduct of inspections for the particular make and model airplane or turbine-powered rotorcraft, including necessary tests and checks. The instructions and procedures must set forth in detail the parts and areas of the airframe, engines, propellers, rotors, and appliances, including survival and emergency equipment required to be inspected.

(2) A schedule for performing the inspections that must be performed under the program expressed in terms of the time in service, calendar time, number of system operations, or any combination of these.

(h) *Changes from one inspection program to another.* When an operator changes from one inspection program under paragraph (f) of this section to another, the time in service, calendar times, or cycles of operation accumulated under the previous program must be applied in determining inspection due times under the new program.

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### § 91.411 Altimeter system and altitude reporting equipment tests and inspections.

(a) No person may operate an airplane, or helicopter, in controlled airspace under IFR unless—

(1) Within the preceding 24 calendar months, each static pressure system, each altimeter instrument, and each automatic pressure altitude reporting system has been tested and inspected and found to comply with Appendix E of Part 43 of this chapter;

(2) Except for the use of system drain and alternate static pressure valves, following any opening and closing of the static pressure system, that system has been tested and inspected and found to comply with paragraph (a), Appendices E and F, of Part 43 of this chapter; and

(3) Following installation or maintenance on the automatic pressure altitude reporting system of the ATC transponder where data correspondence error could be introduced, the integrated system has been tested, inspected, and found to comply with paragraph (c), Appendix E, of Part 43 of this chapter.

(b) The tests required by paragraph (a) of this section must be conducted by—

(1) The manufacturer of the airplane, or helicopter, on which the tests and inspections are to be performed;

(2) A certificated repair station properly equipped to perform those functions and holding—

(i) An instrument rating, Class I;

(ii) A limited instrument rating appropriate to the make and model of appliance to be tested;

(iii) A limited rating appropriate to the test to be performed;

(iv) An airframe rating appropriate to the airplane, or helicopter, to be tested; or

(v) A limited rating for a manufacturer issued for the appliance in accordance with § 145.101(b) (4) of this chapter; or

(3) A certificated mechanic with an airframe rating (static pressure system tests and inspections only).

(c) Altimeter and altitude reporting equipment approved under Technical Standard Orders are considered to be tested and inspected as of the date of their manufacture.

(d) No person may operate an airplane, or helicopter, in controlled airspace under IFR at an altitude above the maximum altitude at which all altimeters and the automatic altitude reporting system of that airplane, or helicopter, have been tested.

**§ 91.413 ATC transponder tests and inspections.**

(a) No person may use an ATC transponder that is specified in § 91.215(a), § 121.345(c), § 127.123(b) or § 135.143(c) of this chapter unless, within the preceding 24 calendar months, the ATC transponder has been tested and inspected and found to comply with Appendix F of Part 43 of this chapter; and

(b) Following any installation or maintenance on an ATC transponder where data correspondence error could be introduced, the integrated system has been tested, inspected, and found to comply with paragraph (c), Appendix E, of Part 43 of this chapter.

(c) The tests and inspections specified in this section must be conducted by—

(1) A certificated repair station properly equipped to perform those functions and holding—

(i) A radio rating, Class III;

(ii) A limited radio rating appropriate to the make and model transponder to be tested;

(iii) A limited rating appropriate to the test to be performed;

(iv) A limited rating for a manufacturer issued for the transponder in accordance with § 145.101(b) (4) of this chapter; or

(2) A holder of a continuous airworthiness maintenance program as provided in Part 121, 127, or § 135.411(a) (2) of this chapter; or

(3) The manufacturer of the aircraft on which the transponder to be tested is installed, if the transponder was installed by that manufacturer.

**§ 91.415 Changes to aircraft inspection programs.**

(a) Whenever the Administrator finds that revisions to an approved aircraft inspection program under § 91.409(f) (4) are necessary for the continued adequacy of the program, the owner or operator shall, after notification by the Administrator, make any changes in the program found to be necessary by the Administrator.

(b) The owner or operator may petition the Administrator to reconsider the notice to make any changes in a program in accordance with paragraph (a) of this section.

(c) The petition must be filed with the FAA Flight Standards district office which requested the change to the program within 30 days after the certificate holder receives the notice.

(d) Except in the case of an emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by the Administrator.

**§ 91.417 Maintenance records.**

(a) Except for work performed in accordance with §§ 91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:

(1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include—

(i) A description (or reference to data acceptable to the Administrator) of the work performed; and

(ii) The date of completion of the work performed; and

(iii) The signature, and certificate number of the person approving the aircraft for return to service.

(2) Records containing the following information:

(i) The total time in service of the airframe, each engine, each propeller, and each rotor.

(ii) The current status of life-limited parts of each airframe, engine, propeller, rotor and appliance.

(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.

(iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.

(v) The current status of applicable airworthiness directives (AD) including, for each, the method of compliance, the AD number, and revision date. If the AD involves recurring action, the time and date when the next action is required.

(vi) Copies of the forms prescribed by § 43.9(a) of this chapter for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances.

(b) The owner or operator shall retain the following records for the periods prescribed:

(1) The records specified in paragraph (a) (1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed.

(2) The records specified in paragraph (a) (2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.

(3) A list of defects furnished to a registered owner or operator under § 43.11 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service.

(c) The owner or operator shall make all maintenance records required to be kept by this section available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB). In addition, the owner or operator shall present the Form 337 described in paragraph (d) of this section for inspection upon request of any law enforcement officer.

(d) When a fuel tank is installed within the passenger compartment or a baggage compartment pursuant to Part 43 of this chapter, a copy of the FAA Form 337 shall be kept on board the modified aircraft by the owner or operator.

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### § 91.419 Transfer of maintenance records.

Any owner or operator who sells a U.S.-registered aircraft shall transfer to the purchaser, at the time of sale, the following records of that aircraft, in plain language form or in coded form at the election of the purchaser, if the coded form provides for the preservation and retrieval of information in a manner acceptable to the Administrator:

(a) The records specified in § 91.417(a) (2).

(b) The records specified in § 91.417(a) (1) which are not included in the records covered by paragraph (a) of this section, except that the purchaser may permit the seller to keep physical custody of such records. However, custody of records by the seller does not relieve the purchaser of the responsibility under § 91.417(c) to make the records available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB).

### § 91.421 Rebuilt engine maintenance records.

(a) The owner or operator may use a new maintenance record, without previous operating history, for an aircraft engine rebuilt by the manufacturer or by an agency approved by the manufacturer.

(b) Each manufacturer or agency that grants zero time to an engine rebuilt by it shall enter in the new record—

(1) A signed statement of the date the engine was rebuilt;

(2) Each change made as required by airworthiness directives; and

(3) Each change made in compliance with manufacturer's service bulletins, if the entry is specifically requested in that bulletin.

(c) For the purposes of this section, a rebuilt engine is a used engine that has been completely disassembled, inspected, repaired as necessary, reassembled, tested, and approved in the same

manner and to the same tolerances and limits as a new engine with either new or used parts. However, all parts used in it must conform to the production drawing tolerances and limits for new parts or be of approved oversized or undersized dimensions for a new engine.

**§§ 91.423—91.499 [Reserved]**

## Subpart F—Large and Turbine-Powered Multiengine Airplanes

### § 91.501 Applicability.

(a) This subpart prescribes operating rules, in addition to those prescribed in other subparts of this part, governing the operation of large and of turbojet-powered multiengine civil airplanes of U.S. registry. The operating rules in this subpart do not apply to those airplanes when they are required to be operated under Parts 121, 125, 129, 135, and 137 of this chapter. [Section 91.409 prescribes an inspection program for large and for turbine-powered (turbojet and turboprop) multiengine airplanes of U.S. registry when they are operated under this part or Part 129 or 137.]

(b) Operations that may be conducted under the rules in this subpart instead of those in Parts 121, 129, 135, and 137 of this chapter when common carriage is not involved, include—

(1) Ferry or training flights;

(2) Aerial work operations such as aerial photography or survey, or pipeline patrol, but not including fire fighting operations;

(3) Flights for the demonstration of an airplane to prospective customers when no charge is made except for those specified in paragraph (d) of this section;

(4) Flights conducted by the operator of an airplane for his personal transportation, or the transportation of his guests when no charge, assessment, or fee is made for the transportation;

(5) Carriage of officials, employees, guests, and property of a company on an airplane operated by that company, or the parent or a subsidiary of the company or a subsidiary of the parent, when the carriage is within the scope of, and incidental to, the business of the company (other than transportation by air) and no charge, assessment or fee is made for the carriage in excess of the cost of owning, operating, and maintaining the airplane, except that no charge of any kind may be made for the carriage of a guest of a company, when the carriage is not within the scope of, and incidental to, the business of that company;

(6) The carriage of company officials, employees, and guests of the company on an airplane operated under a time sharing, interchange, or joint ownership agreement as defined in paragraph (c) of this section;

(7) The carriage of property (other than mail) on an airplane operated by a person in the furtherance of a business or employment (other than transportation by air) when the carriage is within the scope of, and incidental to, that business or employment and no charge, assessment, or fee is made for the carriage other than those specified in paragraph (d) of this section;

(8) The carriage on an airplane of an athletic team, sports group, choral group, or similar group having a common purpose or objective when there is no charge, assessment, or fee of any kind made by any person for that carriage; and

(9) The carriage of persons on an airplane operated by a person in the furtherance of a business other than transportation by air for the purpose of selling them land, goods, or property, including franchises or distributorships, when the carriage is within the scope of, and incidental to, that business and no charge, assessment, or fee is made for that carriage.

(c) As used in this section—

(1) A "time sharing agreement" means an arrangement whereby a person leases his airplane with flight crew to another person, and no charge is made for the flights conducted under that arrangement other than those specified in paragraph (d) of this section;

(2) An "interchange agreement" means an arrangement whereby a person leases his airplane to another person in exchange for equal time, when needed, on the other person's airplane, and no charge, assessment,

or fee is made, except that a charge may be made not to exceed the difference between the cost of owning, operating, and maintaining the two airplanes;

(3) A "joint ownership agreement" means an arrangement whereby one of the registered joint owners of an airplane employs and furnishes the flight crew for that airplane and each of the registered joint owners pays a share of the charges specified in the agreement.

(d) The following may be charged, as expenses of a specific flight, for transportation as authorized by paragraphs (b)(3) and (7) and (c)(1) of this section:

(1) Fuel, oil, lubricants, and other additives.

(2) Travel expenses of the crew, including food, lodging, and ground transportation.

(3) Hangar and tie-down costs away from the aircraft's base of operations.

(4) Insurance obtained for the specific flight.

(5) Landing fees, airport taxes, and similar assessments.

(6) Customs, foreign permit, and similar fees directly related to the flight.

(7) In flight food and beverages.

(8) Passenger ground transportation.

(9) Flight planning and weather contract services.

(10) An additional charge equal to 100 percent of the expenses listed in paragraph (d)(1) of this section.

### § 91.503 Flying equipment and operating information.

(a) The pilot in command of an airplane shall insure that the following flying equipment and aeronautical charts and data, in current and appropriate form, are accessible for each flight at the pilot station of the airplane:

(1) A flashlight having at least two size "D" cells, or the equivalent, that is in good working order.

(2) A cockpit checklist containing the procedures required by paragraph (b) of this section.

(3) Pertinent aeronautical charts.

(4) For IFR, VFR over-the-top, or night operations, each pertinent navigational en route, terminal area, and approach and letdown chart.

(5) In the case of multiengine airplanes, one-engine inoperative climb performance data.

(b) Each cockpit checklist must contain the following procedures and shall be used by the flight crewmembers when operating the airplane:

(1) Before starting engines.

(2) Before takeoff.

(3) Cruise.

(4) Before landing.

(5) After landing.

(6) Stopping engines.

(7) Emergencies.

(c) Each emergency cockpit checklist procedure required by paragraph (b)(7) of this section must contain the following procedures, as appropriate:

(1) Emergency operation of fuel, hydraulic, electrical, and mechanical systems.

(2) Emergency operation of instruments and controls.

(3) Engine inoperative procedures.

(4) Any other procedures necessary for safety.

(d) The equipment, charts, and data prescribed in this section shall be used by the pilot in command and other members of the flight crew, when pertinent.

### § 91.505 Familiarity with operating limitations and emergency equipment.

(a) Each pilot in command of an airplane shall, before beginning a flight, become familiar with the Airplane Flight Manual for that airplane, if one is required, and with any placards, listings, instrument markings, or any combination thereof, containing each operating limitation prescribed for that airplane by the Administrator, including those specified in § 91.9(b).

(b) Each required member of the crew shall, before beginning a flight, become familiar with the emergency equipment installed on the airplane to which that crewmember is assigned and with the procedures to be followed for the use of that equipment in an emergency situation.

### § 91.507 Equipment requirements: Over-the-top or night VFR operations.

No person may operate an airplane over-the-top or at night under VFR unless that airplane is equipped with the instruments and equipment required for IFR operations under § 91.205(d) and one electric landing light for night operations. Each required instrument and item of equipment must be in operable condition.

### § 91.509 Survival equipment for overwater operations.

(a) No person may take off an airplane for a flight over water more than 50 nautical miles from the nearest shore unless that airplane is equipped with a life preserver or an approved flotation means for each occupant of the airplane.

(b) No person may take off an airplane for a flight over water more than 30 minutes flying time or 100 nautical miles from the nearest shore unless it has on board the following survival equipment:

(1) A life preserver, equipped with an approved survivor locator light, for each occupant of the airplane.

(2) Enough liferafts (each equipped with an approved survival locator light) of a rated capacity and buoyancy to accommodate the occupants of the airplane.

(3) At least one pyrotechnic signaling device for each liferaft.

(4) One self-buoyant, water-resistant, portable emergency radio signaling device that is capable of transmission on the appropriate emergency frequency or frequencies and not dependent upon the airplane power supply.

(5) A lifeline stored in accordance with § 25.1411(g) of this chapter.

(c) The required liferafts, life preservers, and signaling devices must be installed in conspicuously marked locations and easily accessible in the event of a ditching without appreciable time for preparatory procedures.

(d) A survival kit, appropriately equipped for the route to be flown, must be attached to each required liferaft.

(e) As used in this section, the term shore means that area of the land adjacent to the water which is above the high water mark and excludes land areas which are intermittently under water.

### § 91.511 Radio equipment for overwater operations.

(a) Except as provided in paragraphs (c) and (d) of this section, no person may take off an airplane for a flight over water more than 30 minutes flying time or 100 nautical miles from the nearest shore unless it has at least the following operable equipment:

(1) Radio communication equipment appropriate to the facilities to be used and able to transmit to, and receive from, any place on the route, at least one surface facility:

(i) Two transmitters.

(ii) Two microphones.

(iii) Two headsets or one headset and one speaker.

(iv) Two independent receivers.

(2) Appropriate electronic navigational equipment consisting of at least two independent electronic navigation units capable of providing the pilot with the information necessary to navigate the airplane within the airspace assigned by air traffic control. However, a receiver that can receive both communications and required navigational signals may be used in place of a separate communications receiver and a separate navigational signal receiver or unit.

(b) For the purposes of paragraphs (a)(1)(iv) and (a)(2) of this section, a receiver or electronic navigation unit is independent if the function of any part of it does not depend on the functioning of any part of another receiver or electronic navigation unit.

(c) Notwithstanding the provisions of paragraph (a) of this section, a person may operate an airplane on which no passengers are carried from a place where repairs or replacement cannot be made to a place where they can be made, if not more than one of each of the dual items of radio communication and navigational equipment specified in paragraphs (a)(1)(i)

through (iv) and (a)(2) of this section malfunctions or becomes inoperative.

(d) Notwithstanding the provisions of paragraph (a) of this section, when both VHF and HF communications equipment are required for the route and the airplane has two VHF transmitters and two VHF receivers for communications, only one HF transmitter and one HF receiver is required for communications.

(e) As used in this section, the term "shore" means that area of the land adjacent to the water which is above the high-water mark and excludes land areas which are intermittently under water.

### § 91.513 Emergency equipment.

(a) No person may operate an airplane unless it is equipped with the emergency equipment listed in this section.

(b) Each item of equipment—

(1) Must be inspected in accordance with § 91.409 to ensure its continued serviceability and immediate readiness for its intended purposes;

(2) Must be readily accessible to the crew;

(3) Must clearly indicate its method of operation; and

(4) When carried in a compartment or container, must have that compartment or container marked as to contents and date of last inspection.

(c) Hand fire extinguishers must be provided for use in crew, passenger, and cargo compartments in accordance with the following:

(1) The type and quantity of extinguishing agent must be suitable for the kinds of fires likely to occur in the compartment where the extinguisher is intended to be used.

(2) At least one hand fire extinguisher must be provided and located on or near the flight deck in a place that is readily accessible to the flight crew.

(3) At least one hand fire extinguisher must be conveniently located in the passenger compartment of each airplane accommodating more than six but less than 31 passengers, and at least two hand fire extinguishers must be conveniently located in the passenger compartment of each airplane accommodating more than 30 passengers.

(4) Hand fire extinguishers must be installed and secured in such a manner that they will not interfere with the safe operation of the airplane or adversely affect the safety of the crew and passengers. They must be readily accessible and, unless the locations of the fire extinguishers are obvious, their stowage provisions must be properly identified.

(d) First aid kits for treatment of injuries likely to occur in flight or in minor accidents must be provided.

(e) Each airplane accommodating more than 19 passengers must be equipped with a crash ax.

(f) Each passenger-carrying airplane must have a portable battery-powered megaphone or megaphones readily accessible to the crewmembers assigned to direct emergency evacuation, installed as follows:

(1) One megaphone on each airplane with a seating capacity of more than 60 but less than 100 passengers, at the most rearward location in the passenger cabin where it would be readily accessible to a normal flight attendant seat. However, the Administrator may grant a deviation from the requirements of this subparagraph if the Administrator finds that a different location would be more useful for evacuation of persons during an emergency.

(2) On each airplane with a seating capacity of 100 or more passengers, one megaphone installed at the forward end and one installed at the most rearward location where it would be readily accessible to a normal flight attendant seat.

### § 91.515 Flight altitude rules.

(a) Notwithstanding § 91.119, and except as provided in paragraph (b) of this section, no person may operate an airplane under VFR at less than—

(1) One thousand feet above the surface, or 1,000 feet from any mountain, hill, or other obstruction to flight, for day operations; and

(2) The altitudes prescribed in § 91.177, for night operations.

(b) This section does not apply—

(1) During takeoff or landing;

(2) When a different altitude is authorized by a waiver to this section under Subpart J of this part; or

(3) When a flight is conducted under the special VFR weather minimums of § 91.157 with an appropriate clearance from ATC.

### § 91.517 Smoking and safety belt signs.

(a) Except as provided in paragraph (b) of this section, no person may operate an airplane carrying passengers unless it is equipped with signs that are visible to passengers and cabin attendants to notify them when smoking is prohibited and when safety belts should be fastened. The signs must be so constructed that the crew can turn them on and off. They must be turned on for each takeoff and each landing and when otherwise considered to be necessary by the pilot in command.

(b) The pilot in command of an airplane that is not equipped as provided in paragraph (a) of this section shall insure that the passengers are orally notified each time that it is necessary to fasten their safety belts and when smoking is prohibited.

### § 91.519 Passenger briefing.

(a) Before each takeoff the pilot in command of an airplane carrying passengers shall ensure that all passengers have been orally briefed on—

(1) Smoking;

(2) Use of safety belts;

(3) Location and means for opening the passenger entry door and emergency exits;

(4) Location of survival equipment;

(5) Ditching procedures and the use of flotation equipment required under § 91.509 for a flight over water; and

(6) The normal and emergency use of oxygen equipment installed on the airplane.

(b) The oral briefing required by paragraph (a) of this section shall be given by the pilot in command or a member of the crew, but need not be given when the pilot in command determines that the passengers are familiar with the contents of the briefing. It may be supplemented by printed cards for the use of each passenger containing—

(1) A diagram of, and methods of operating, the emergency exits; and

(2) Other instructions necessary for use of emergency equipment.

(c) Each card used under paragraph (b) must be carried in convenient locations on the airplane for the use of each passenger and must contain information that is pertinent only to the type and model airplane on which it is used.

### § 91.521 Shoulder harness.

(a) No person may operate a transport category airplane that was type certificated after January 1, 1958, unless it is equipped at each seat at a flight deck station with a combined safety belt and shoulder harness that meets the applicable requirements specified in § 25.785 of this chapter, except that—

(1) Shoulder harnesses and combined safety belt and shoulder harnesses that were approved and installed before March 6, 1980, may continue to be used; and

(2) Safety belt and shoulder harness restraint systems may be designed to the inertia load factors established under the certification basis of the airplane.

(b) No person may operate a transport category airplane unless it is equipped at each required flight attendant seat in the passenger compartment with a combined safety belt and shoulder harness that meets the applicable requirements specified in § 25.785 of this chapter, except that—

(1) Shoulder harnesses and combined safety belt and shoulder harnesses that were approved and installed before March 6, 1980, may continue to be used; and

(2) Safety belt and shoulder harness restraint systems may be designed to the inertia load factors established under the certification basis of the airplane.

### § 91.523 Carry-on baggage.

No pilot in command of an airplane having a seating capacity of more than 19 passengers may permit a passenger to stow baggage aboard that airplane except—

(a) In a suitable baggage or cargo storage compartment, or as provided in § 91.525; or

(b) Under a passenger seat in such a way that it will not slide forward under crash impacts severe enough to induce the ultimate inertia forces specified in § 25.561(b)(3) of this chapter, or the requirements of the regulations under which the airplane was type certificated. Restraining devices must also limit sideward motion of under-seat baggage and be designed to withstand crash impacts severe enough to induce sideward forces specified in § 25.561(b)(3) of this chapter.

### § 91.525 Carriage of cargo.

(a) No pilot in command may permit cargo to be carried in any airplane unless—

(1) It is carried in an approved cargo rack, bin, or compartment installed in the airplane;

(2) It is secured by means approved by the Administrator; or

(3) It is carried in accordance with each of the following:

(i) It is properly secured by a safety belt or other tiedown having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions.

(ii) It is packaged or covered to avoid possible injury to passengers.

(iii) It does not impose any load on seats or on the floor structure that exceeds the load limitation for those components.

(iv) It is not located in a position that restricts the access to or use of any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment.

(v) It is not carried directly above seated passengers.

(b) When cargo is carried in cargo compartments that are designed to require the physical entry of a crewmember to extinguish any fire that may occur during flight, the cargo must be loaded so as to allow a crewmember to effectively reach all parts of the compartment with the contents of a hand fire extinguisher.

### § 91.527 Operating in icing conditions.

(a) No pilot may take off an airplane that has—

(1) Frost, snow, or ice adhering to any propeller, windshield, or powerplant installation or to an airspeed, altimeter, rate of climb, or flight attitude instrument system;

(2) Snow or ice adhering to the wings or stabilizing or control surfaces; or

(3) Any frost adhering to the wings or stabilizing or control surfaces, unless that frost has been polished to make it smooth.

(b) Except for an airplane that has ice protection provisions that meet the requirements in section 34 of Special Federal Aviation Regulation No. 23, or those for transport category airplane type certification, no pilot may fly—

(1) Under IFR into known or forecast moderate icing conditions; or

(2) Under VFR into known light or moderate icing conditions unless the aircraft has functioning de-icing or anti-icing equipment protecting each propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb, or flight attitude instrument system.

(c) Except for an airplane that has ice protection provisions that meet the requirements in section 34 of Special Federal Aviation Regulation No. 23, or those for transport category airplane type certification, no pilot may fly an airplane into known or forecast severe icing conditions.

(d) If current weather reports and briefing information relied upon by the pilot in command indicate that the forecast icing conditions that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast, the restrictions in paragraphs (b) and (c) of this section based on forecast conditions do not apply.

### § 91.529 Flight engineer requirements.

(a) No person may operate the following airplanes without a flight crewmember holding a current flight engineer certificate:

(1) An airplane for which a type certificate was issued before January 2, 1964, having a maximum certificated takeoff weight of more than 80,000 pounds.

(2) An airplane type certificated after January 1, 1964, for which a flight engineer is required by the type certification requirements.

(b) No person may serve as a required flight engineer on an airplane unless, within the preceding 6 calendar months, that person has had at least 50 hours of flight time as a flight engineer on that type of airplane or has been checked by the Administrator on that type airplane and is found to be familiar and competent with all essential current information and operating procedures.

### § 91.531 Second in command requirements.

(a) Except as provided in paragraph (b) of this section, no person may operate the following airplanes without a pilot who is designated as second in command of that airplane:

(1) A large airplane, except that a person may operate an airplane certificated under SFAR 41 without a pilot who is designated as second in command if that airplane is certificated for operation with one pilot.

(2) A turbojet-powered multiengine airplane for which two pilots are required under the type certification requirements for that airplane.

(3) A commuter category airplane, except that a person may operate a commuter category airplane notwithstanding paragraph (a)(1) of this section, that has a passenger seating configuration, excluding pilot seats, of nine or less without a pilot who is designated as second in command if that airplane is type certificated for operations with one pilot.

(b) The Administrator may issue a letter of authorization for the operation of an airplane without compliance with the requirements of paragraph (a) of this section if that airplane is designed for and type certificated with only one pilot station. The authorization contains any conditions that the Administrator finds necessary for safe operation.

(c) No person may designate a pilot to serve as second in command, nor may any pilot serve as second in command, of an airplane required under this section to have two pilots unless that pilot meets the qualifications for second in command prescribed in § 61.55 of this chapter.

### § 91.533 Flight attendant requirements.

(a) No person may operate an airplane unless at least the following number of flight attendants are on board the airplane:

(1) For airplanes having more than 19 but less than 51 passengers on board, one flight attendant.

(2) For airplanes having more than 50 but less than 101 passengers on board, two flight attendants.

(3) For airplanes having more than 100 passengers on board, two flight attendants plus one additional flight attendant for each unit (or part of a unit) of 50 passengers above 100.

(b) No person may serve as a flight attendant on an airplane when required by paragraph (a) of this section unless that person has demonstrated to the pilot in command familiarity with the necessary functions to be performed in an emergency or a situation requiring emergency evacuation and is capable of using the emergency equipment installed on that airplane.

### §§ 91.535—91.599 [Reserved]

## Subpart G—Additional Equipment and Operating Requirements for Large and Transport Category Aircraft

### § 91.601 Applicability.

This subpart applies to operation of large and transport category U.S.-registered civil aircraft.

### § 91.603 Aural speed warning device.

No person may operate a transport category airplane in air commerce unless that airplane is equipped with an aural speed warning device that complies with § 25.1303(c) (1).

### § 91.605 Transport category civil airplane weight limitations.

(a) No person may take off any transport category airplane (other than a turbine-engine-

powered airplane certificated after September 30, 1958) unless—

(1) The takeoff weight does not exceed the authorized maximum takeoff weight for the elevation of the airport of takeoff;

(2) The elevation of the airport of takeoff is within the altitude range for which maximum takeoff weights have been determined;

(3) Normal consumption of fuel and oil in flight to the airport of intended landing will leave a weight on arrival not in excess of the authorized maximum landing weight for the elevation of that airport; and

(4) The elevations of the airport of intended landing and of all specified alternate airports are within the altitude range for which the maximum landing weights have been determined.

(b) No person may operate a turbine-engine-powered transport category airplane certificated after September 30, 1958, contrary to the Airplane Flight Manual, or take off that airplane unless—

(1) The takeoff weight does not exceed the takeoff weight specified in the Airplane Flight Manual for the elevation of the airport and for the ambient temperature existing at the time of takeoff;

(2) Normal consumption of fuel and oil in flight to the airport of intended landing and to the alternate airports will leave a weight on arrival not in excess of the landing weight specified in the Airplane Flight Manual for the elevation of each of the airports involved and for the ambient temperatures expected at the time of landing;

(3) The takeoff weight does not exceed the weight shown in the Airplane Flight Manual to correspond with the minimum distances required for takeoff considering the elevation of the airport, the runway to be used, the effective runway gradient, and the ambient temperature and wind component existing at the time of takeoff; and

(4) Where the takeoff distance includes a clearway, the clearway distance is not greater than one-half of—

(i) The takeoff run, in the case of airplanes certificated after September 30, 1958, and before August 30, 1959; or

(ii) The runway length, in the case of airplanes certificated after August 29, 1959.

(c) No person may take off a turbine-engine-powered transport category airplane certificated after August 29, 1959, unless, in addition to the requirements of paragraph (b) of this section—

(1) The accelerate-stop distance is no greater than the length of the runway plus the length of the stopway (if present); and

(2) The takeoff distance is no greater than the length of the runway plus the length of the clearway (if present); and

(3) The takeoff run is no greater than the length of the runway.

### § 91.607 Emergency exits for airplanes carrying passengers for hire.

(a) Notwithstanding any other provision of this chapter, no person may operate a large airplane (type certificated under the Civil Air Regulations effective before April 9, 1957) in passenger-carrying operations for hire, with more than the number of occupants—

(1) Allowed under Civil Air Regulations § 4b.362(a), (b), and (c) as in effect on December 20, 1951; or

(2) Approved under Special Civil Air Regulations SR-387, SR-389, SR-389A, or SR-389B, or under this section as in effect.

However, an airplane type listed in the following table [see next page] may be operated with up to the listed number of occupants (including crewmembers) and the corresponding number of exits (including emergency exits and doors) approved for the emergency exit of passengers or with an occupant-exit configuration approved under paragraph (b) or (c) of this section.

(b) Occupants in addition to those authorized under paragraph (a) of this section may be carried as follows:

(1) For each additional floor-level exit at least 24 inches wide by 48 inches high, with an unobstructed 20-inch-wide access aisleway between the exit and the main passenger aisle, 12 additional occupants.

(2) For each additional window exit located over a wing that meets the requirements of the airworthiness standards under which the airplane was type certificated or that is large

enough to inscribe an ellipse 19 × 26 inches, eight additional occupants.

(3) For each additional window exit that is not located over a wing but that otherwise complies with paragraph (b)(2) of this section, five additional occupants.

(4) For each airplane having a ratio (as computed from the table in paragraph (a) of this section) of maximum number of occupants to number of exits greater than 14:1, and for each airplane that does not have at least one full-size, door-type exit in the side of the fuselage in the rear part of the cabin, the first additional exit must be a floor-level exit that complies with paragraph (b)(1) of this section and must be located in the rear part of the cabin on the opposite side of the fuselage from the main entrance door. However, no person may operate an airplane under this section carrying more than 115 occupants unless there is such an exit on each side of the fuselage in the rear part of the cabin.

| *Airplane Type* | *Maximum number of occupants including all crewmembers* | *Corresponding number of exits authorized for passenger use* |
|---|---|---|
| B-307 | 61 | 4 |
| B-377 | 96 | 9 |
| C-46 | 67 | 4 |
| CV-240 | 53 | 6 |
| CV-340 and CV-440 | 53 | 6 |
| DC-3 | 35 | 4 |
| DC-3 (Super) | 39 | 5 |
| DC-4 | 86 | 5 |
| DC-6 | 87 | 7 |
| DC-6B | 112 | 11 |
| L-18 | 17 | 3 |
| L-049, L-649, L-749 | 87 | 7 |
| L-1049 series | 96 | 9 |
| M-202 | 53 | 6 |
| M-404 | 53 | 7 |
| Viscount 700 series | 53 | 7 |

(c) No person may eliminate any approved exit except in accordance with the following:

(1) The previously authorized maximum number of occupants must be reduced by the same number of additional occupants authorized for that exit under this section.

(2) Exits must be eliminated in accordance with the following priority schedule: First, non-over-wing window exits; second, over-wing window exits; third, floor-level exits located in the forward part of the cabin; and fourth, floor-level exits located in the rear of the cabin.

(3) At least one exit must be retained on each side of the fuselage regardless of the number of occupants.

(4) No person may remove any exit that would result in a ratio of maximum number of occupants to approved exits greater than 14:1.

(d) This section does not relieve any person operating under Part 121 of this chapter from complying with § 121.291.

### § 91.609 Flight recorders and cockpit voice recorders.

(a) No holder of an air carrier operating certificate or an operating certificate may conduct any operation under this part with an aircraft listed in the holder's operations specifications or current list of aircraft used in air transportation unless that aircraft complies with any applicable flight recorder and cockpit voice recorder requirements of the part under which its certificate is issued except that the operator may—

(1) Ferry an aircraft with an inoperative flight recorder or cockpit voice recorder from a place where repair or replacement cannot be made to a place where they can be made;

(2) Continue a flight as originally planned, if the flight recorder or cockpit voice recorder becomes inoperative after the aircraft has taken off;

(3) Conduct an airworthiness flight test during which the flight recorder or cockpit voice recorder is turned off to test it or to test any communications or electrical equipment installed in the aircraft; or

(4) Ferry a newly acquired aircraft from the place where possession of it is taken to a place where the flight recorder or cockpit voice recorder is to be installed.

(b) No person may operate a U.S. civil registered, multiengine, turbine-powered airplane or rotorcraft having a passenger seating configuration, excluding any pilot seats of 10 or more that has been manufactured after October 11, 1991, unless it is equipped with one

one or more approved flight recorders that utilize a digital method of recording and storing data and a method of readily retrieving that data from the storage medium, that are capable of recording the data specified in Appendix E to this part, for an airplane, or Appendix F to this part, for a rotorcraft, of this part within the range, accuracy, and recording interval specified, and that are capable of retaining no less than 8 hours of aircraft operation.

(c) Whenever a flight recorder, required by this section, is installed, it must be operated continuously from the instant the airplane begins the takeoff roll or the rotorcraft begins lift-off until the airplane has completed the landing roll or the rotorcraft has landed at its destination.

(d) Unless otherwise authorized by the Administrator, after October 11, 1991, no person may operate a U.S. civil registered, multiengine, turbine-powered airplane or rotorcraft having a passenger seating configuration of six passengers or more and for which two pilots are required by type certification or operating rule unless it is equipped with an approved cockpit voice recorder that:

(1) Is installed in compliance with § 23.1457(a)(1) and (2), (b), (c), (d), (e), (f), and (g); § 25.1457(a)(1) and (2), (b), (c), (d), (e), (f), and (g); § 27.1457(a)(1) and (2), (b), (c), (d), (e), (f), and (g); or § 29.1457(a)(1) and (2), (b), (c), (d), (e), (f), and (g) of this chapter, as applicable; and

(2) Is operated continuously from the use of the checklist before the flight to completion of the final checklist at the end of the flight.

(e) In complying with this section, an approved cockpit voice recorder having an erasure feature may be used, so that at any time during the operation of the recorder, information recorded more than 15 minutes earlier may be erased or otherwise obliterated.

(f) In the event of an accident or occurrence requiring immediate notification to the National Transportation Safety Board under Part 830 of its regulations that results in the termination of the flight, any operator who has installed approved flight recorders and approved cockpit voice recorders shall keep the recorded information for at least 60 days or, if requested by the Administrator or the Board, for a longer period. Information obtained from the record is used to assist in determining the cause of accidents or occurrences in connection with the investigation under Part 830. The Administrator does not use the cockpit voice recorder record in any civil penalty or certificate action.

### § 91.611 Authorization for ferry flight with one engine inoperative.

(a) *General.* The holder of an air carrier operating certificate or an operating certificate issued under Part 125 may conduct a ferry flight of a four-engine airplane or a turbine-engine-powered airplane equipped with three engines, with one engine inoperative, to a base for the purpose of repairing that engine subject to the following:

(1) The airplane model has been test flown and found satisfactory for safe flight in accordance with paragraph (b) or (c) of this section, as appropriate. However, each operator who before November 19, 1966, has shown that a model of airplane with an engine inoperative is satisfactory for safe flight by a test flight conducted in accordance with performance data contained in the applicable Airplane Flight Manual under paragraph (a) (2) of this section need not repeat the test flight for that model.

(2) The approved Airplane Flight Manual contains the following performance data and the flight is conducted in accordance with that data:

(i) Maximum weight.

(ii) Center of gravity limits.

(iii) Configuration of the inoperative propeller (if applicable).

(iv) Runway length for takeoff (including temperature accountability).

(v) Altitude range.

(vi) Certificate limitations.

(vii) Ranges of operational limits.

(viii) Performance information.

(ix) Operating procedures.

(3) The operator has FAA approved procedures for the safe operation of the airplane, including specific requirements for—

(i) Limiting the operating weight on any ferry flight to the minimum necessary for the flight plus the necessary reserve fuel load;

(ii) A limitation that takeoffs must be made from dry runways unless, based on a showing of actual operating takeoff techniques on wet runways with one engine inoperative, takeoffs with full controllability from wet runways have been approved for the specific model aircraft and included in the Airplane Flight Manual;

(iii) Operations from airports where the runways may require a takeoff or approach over populated areas; and

(iv) Inspection procedures for determining the operating condition of the operative engines.

(4) No person may take off an airplane under this section if—

(i) The initial climb is over thickly populated areas; or

(ii) Weather conditions at the takeoff or destination airport are less than those required for VFR flight.

(5) Persons other than required flight crewmembers shall not be carried during the flight.

(6) No person may use a flight crewmember for flight under this section unless that crewmember is thoroughly familiar with the operating procedures for one-engine inoperative ferry flight contained in the certificate holder's manual and the limitations and performance information in the Airplane Flight Manual.

(b) *Flight tests: reciprocating-engine-powered airplanes.* The airplane performance of a reciprocating-engine-powered airplane with one engine inoperative must be determined by flight test as follows:

(1) A speed not less than 1.3 $V_{S_1}$ must be chosen at which the airplane may be controlled satisfactorily in a climb with the critical engine inoperative (with its propeller removed or in a configuration desired by the operator) and with all other engines operating at the maximum power determined in paragraph (b)(3) of this section.

(2) The distance required to accelerate to the speed listed in paragraph (b)(1) of this section and to climb to 50 feet must be determined with—

(i) The landing gear extended;

(ii) The critical engine inoperative and its propeller removed or in a configuration desired by the operator; and

(iii) The other engines operating at not more than the maximum power established under paragraph (b)(3) of this section.

(3) The takeoff, flight and landing procedures, such as the approximate trim settings, method of power application, maximum power, and speed must be established.

(4) The performance must be determined at a maximum weight not greater than the weight that allows a rate of climb of at least 400 feet per minute in the en route configuration set forth in § 25.67(d) of this chapter in effect on January 31, 1977, at an altitude of 5,000 feet.

(5) The performance must be determined using temperature accountability for the takeoff field length, computed in accordance with § 25.61 of this chapter in effect on January 31, 1977.

(c) *Flight tests: Turbine-engine-powered airplanes.* The airplane performance of a turbine-engine-powered airplane with one engine inoperative must be determined by flight tests, including at least three takeoff tests, in accordance with the following:

(1) Takeoff speeds $V_R$ and $V_2$, not less than the corresponding speeds under which the airplane was type certificated under § 25.107 of this chapter, must be chosen at which the airplane may be controlled satisfactorily with the critical engine inoperative (with its propeller removed or in a configuration desired by the operator, if applicable) and with all other engines operating at not more than the power selected for type certification as set forth in § 25.101 of this chapter.

(2) The minimum takeoff field length must be the horizontal distance required to accelerate and climb to the 35-foot height at $V_2$ speed (including any additional speed increment obtained in the tests) multiplied by 115 percent and determined with—

(i) The landing gear extended;

(ii) The critical engine inoperative and its propeller removed or in a configuration desired by the operator (if applicable); and

(iii) The other engine operating at not more than the power selected for type certification as set forth in § 25.101 of this chapter.

(3) The takeoff, flight, and landing procedures such as the approximate trim setting, method of power application, maximum power, and speed must be established. The airplane must be satisfactorily controllable during the entire takeoff run when operated according to these procedures.

(4) The performance must be determined at a maximum weight not greater than the weight determined under § 25.121(c) of this chapter but with—

(i) The actual steady gradient of the final takeoff climb requirement not less than 1.2 percent at the end of the takeoff path with two critical engines inoperative; and

(ii) The climb speed not less than the two-engine inoperative trim speed for the actual steady gradient of the final takeoff climb prescribed by paragraph (c)(4)(i) of this section.

(5) The airplane must be satisfactorily controllable in a climb with two critical engines inoperative. Climb performance may be shown by calculations based on, and equal in accuracy to, the results of testing.

(6) The performance must be determined using temperature accountability for takeoff distance and final takeoff climb computed in accordance with § 25.101 of this chapter.

For the purpose of paragraphs (c)(4) and (5) of this section, "two critical engines" means two adjacent engines on one side of an airplane with four engines, and the center engine and one outboard engine on an airplane with three engines.

### § 91.613 Materials for compartment interiors.

No person may operate an airplane that conforms to an amended or supplemental type certificate issued in accordance with SFAR No. 41 for a maximum certificated takeoff weight in excess of 12,500 pounds unless within 1 year after issuance of the initial airworthiness certificate under that SFAR the airplane meets the compartment interior requirements set forth in § 25.853(a), (b), (b–1), (b–2), and (b–3) of this chapter in effect on September 26, 1978.

### §§ 91.615—91.699 [Reserved]

## Subpart H—Foreign Aircraft Operations and Operations of U.S.-Registered Civil Aircraft Outside of the United States

### § 91.701 Applicability.

This subpart applies to the operations of civil aircraft of U.S. registry outside of the United States and the operations of foreign civil aircraft within the United States.

### § 91.703 Operations of civil aircraft of U.S. registry outside of the United States.

(a) Each person operating a civil aircraft of U.S. registry outside of the United States shall—

(1)When over the high seas, comply with Annex 2 (Rules of the Air) to the Convention on International Civil Aviation and with §§ 91.117(c), 91.130, and 91.131;

(2) When within a foreign country, comply with the regulations relating to the flight and maneuver of aircraft there in force;

(3) Execpt for §§ 91.307(b), 91.309, 91.323, and 91.711, comply with this part so far as it is not inconsistent with applicable regulations of the foreign country where the aircraft is operated or Annex 2 of the Convention on International Civil Aviation; and

(4) When over the North Atlantic within airspace designated as Minimum Navigation Performance Specifications airspace, comply with § 91.705.

(b) Annex 2 to the Convention on International Civil Aviation, Eighth Edition—July 1986, with amendments through Amendment 28 effective November 1987, to which reference is made in this part, is incorporated into this part and made a part hereof as provided in 5 U.S.C. 552 and pursuant to 1 CFR Part 51. Annex 2 (including a complete historic file of changes thereto) is available for public inspection at the Rules Docket, AGC–10, Federal Aviation Administration, 800 Independence Avenue, SW, Washington, D.C. 20591. In addition, Annex 2 may be purchased from the International Civil

Aviation Organization (Attention: Distribution Officer), P.O. Box 400, Succursale, Place de L'Aviation Internationale, 1000 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2R2.

### § 91.705 Operations within the North Atlantic Minimum Navigation Performance Specifications Airspace.

No person may operate a civil aircraft of U.S. registry in North Atlantic (NAT) airspace designated as Minimum Navigation Performance Specifications (MNPS) airspace unless—

(a) The aircraft has approved navigation performance capability which complies with the requirements of Appendix C of this part; and

(b) The operator is authorized by the Administrator to perform such operations.

(c) The Administrator authorizes deviations from the requirements of this section in accordance with Section 3 of Appendix C to this part.

### § 91.707 Flights between Mexico or Canada and the United States.

Unless otherwise authorized by ATC, no person may operate a civil aircraft between Mexico or Canada and the United States without filing an IFR or VFR flight plan, as appropriate.

### § 91.709 Operations to Cuba.

No person may operate a civil aircraft from the United States to Cuba unless—

(a) Departure is from an international airport of entry designated in § 6.13 of the Air Commerce Regulations of the Bureau of Customs (19 CFR 6.13); and

(b) In the case of departure from any of the 48 continguous States or the District of Columbia, the pilot in command of the aircraft has filed—

(1) A DVFR or IFR flight plan as prescribed in § 99.11 or § 99.13 of this chapter; and

(2) A written statement, within 1 hour before departure, with the Office of Immigration and Naturalization Service at the airport of departure, containing—

(i) All information in the flight plan;

(ii) The name of each occupant of the aircraft;

(iii) The number of occupants of the aircraft; and

(iv) A description of the cargo, if any.

This section does not apply to the operation of aircraft by a scheduled air carrier over routes authorized in operations specifications issued by the Administrator.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### § 91.711 Special rules for foreign civil aircraft.

(a) *General.* In addition to the other applicable regulations of this part, each person operating a foreign civil aircraft within the United States shall comply with this section.

(b) *VFR.* No person may conduct VFR operations which require two-way radio communications under this part unless at least one crewmember of that aircraft is able to conduct two-way radio communications in the English language and is on duty during that operation.

(c) *IFR.* No person may operate a foreign civil aircraft under IFR unless—

(1) That aircraft is equipped with—

(i) Radio equipment allowing two-way radio communications with ATC when it is operated in control zone or control area; and

(ii) Radio navigational equipment appropriate to the navigational facilities to be used;

(2) Each person piloting the aircraft—

(i) Holds a current United States instrument rating or is authorized by his foreign airman certificate to pilot under IFR; and

(ii) Is thoroughly familiar with the United States en route, holding, and letdown procedures; and

(3) At least one crewmember of that aircraft is able to conduct two-way radiotelephone communications in the English language and that crewmember is on duty while the aircraft is approaching, operating within, or leaving the United States.

(d) *Overwater.* Each person operating a foreign civil aircraft over water off the shores of the United States shall give flight notification or

file a flight plan in accordance with the Supplementary Procedures for the ICAO region concerned.

(e) *Flight at and above FL 240.* If VOR navigational equipment is required under paragraph (c)(1)(ii) of this section, no person may operate a foreign civil aircraft within the 50 states and the District of Columbia at or above FL 240, unless the aircraft is equipped with distance measuring equipment (DME) capable of receiving and indicating distance information from the VORTAC facilities to be used. When DME required by this paragraph fails at and above FL 240, the pilot in command of the aircraft shall notify ATC immediately and may then continue operations at and above FL 240 to the next airport of intended landing at which repairs or replacement of the equipment can be made. However, paragraph (e) of this section does not apply to foreign civil aircraft that are not equipped with DME when operated for the following purposes and if ATC is notified prior to each takeoff:

(1) Ferry flights to and from a place in the United States where repairs or alterations are to be made.

(2) Ferry flights to a new country of registry.

(3) Flight of a new aircraft of U.S. manufacture for the purpose of—

(i) Flight testing the aircraft;

(ii) Training foreign flight crews in the operation of the aircraft; or

(iii) Ferrying the aircraft for export delivery outside the United States.

(4) Ferry, demonstration, and test flight of an aircraft brought to the United States for the purpose of demonstration or testing the whole or any part thereof.

### § 91.713 Operation of civil aircraft of Cuban registry.

No person may operate a civil aircraft of Cuban registry except in controlled airspace and in accordance with air traffic clearance or air traffic control instructions that may require use of specific airways or routes and landings at specific airports.

### § 91.715 Special flight authorizations for foreign civil aircraft.

(a) Foreign civil aircraft may be operated without airworthiness certificates required under § 91.203 if a special flight authorization for that operation is issued under this section. Application for a special flight authorization must be made to the Regional Director of the FAA region in which the applicant is located or to the region within which the U.S. point of entry is located. However, in the case of an aircraft to be operated in the U.S. for the purpose of demonstration at an air show, the application may be made to the Regional Director of the FAA region in which the airshow is located.

(b) The Administrator may issue a special flight authorization for a foreign civil aircraft subject to any conditions and limitations that the Administrator considers necessary for safe operation in the U.S. airspace.

(c) No person may operate a foreign civil aircraft under a special flight authorization unless that operation also complies with Part 375 of the Special Regulations of the Department of Transportation (14 CFR Part 375).

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### §§ 91.717—91.799 [Reserved]

## Subpart I—Operating Noise Limits

### § 91.801 Applicability: Relation to Part 36.

(a) This subpart prescribes operating noise limits and related requirements that apply, as follows, to the operation of civil aircraft in the United States.

(1) Sections 91.803, 91.805, 91.807, and 91.809, and 91.811 apply to civil subsonic turbojet airplanes with maximum weights of more than 75,000 pounds and—

(i) If U.S. registered, that have standard airworthiness certificates; or

(ii) If foreign registered, that would be required by this chapter to have a U.S. standard airworthiness certificate in order to conduct the operations intended for the airplane were it registered in the United States. Those sections apply to operations

to or from airports in the United States under this part and Parts 121, 125, 129, and 135 of this chapter.

(2) Section 91.813 applies to U.S. operators of civil subsonic turbojet airplanes covered by this subpart. This section applies to operators operating to or from airports in the United States under this part and Parts 121, 125, and 135, but not to those operating under Part 129 of this chapter.

(3) Sections 91.803, 91.819, and 91.821 apply to U.S.-registered civil supersonic airplanes having standard airworthiness certificates and to foreign-registered civil supersonic airplanes that, if registered in the United States, would be required by this chapter to have U.S. standard airworthiness certificates in order to conduct the operations intended for the airplane. Those sections apply to operations under this part and under Parts 121, 125, 129, and 135 of this chapter.

(b) Unless otherwise specified, as used in this subpart "Part 36" refers to 14 CFR Part 36, including the noise levels under Appendix C of that part, notwithstanding the provisions of that part excepting certain airplanes from the specified noise requirements. For purposes of this subpart, the various stages of noise levels, the terms used to describe airplanes with respect to those levels, and the terms "subsonic airplane" and "supersonic airplane" have the meanings specified under Part 36 of this chapter. For purposes of this subpart, for subsonic airplanes operated in foreign air commerce in the United States, the Administrator may accept compliance with the noise requirements under Annex 16 of the International Civil Aviation Organization when those requirements have been shown to be substantially compatible with, and achieve results equivalent to those achievable under, Part 36 for that airplane. Determinations made under these provisions are subject to the limitations of § 36.5 of this chapter as if those noise levels were Part 36 noise levels.

### § 91.803 Part 125 operators: Designation of applicable regulations.

For airplanes covered by this subpart and operated under Part 125 of this chapter, the following regulations apply as specified:

(a) For each airplane operation to which requirements prescribed under this subpart applied before November 29, 1980, those requirements of this subpart continue to apply.

(b) For each subsonic airplane operation to which requirements prescribed under this subpart did not apply before November 29, 1980, because the airplane was not operated in the United States under this part or Part 121, 129, or 135 of this chapter, the requirements prescribed under §§ 91.805, 91.809, 91.811, and 91.813 of this subpart apply.

(c) For each supersonic airplane operation to which requirements prescribed under this subpart did not apply before November 29, 1980, because the airplane was not operated in the United States under this part or Part 121, 129, or 135 of this chapter, the requirements of §§ 91.819 and 91.821 of this subpart apply.

(d) For each airplane required to operate under Part 125 for which a deviation under that part is approved to operate, in whole or in part, under this part or Part 121, 129, or 135 of this chapter, notwithstanding the approval, the requirements prescribed under paragraphs (a), (b), and (c) of this section continue to apply.

### § 91.805 Final compliance: Subsonic airplanes.

Except as provided in §§ 91.809 and 91.811, on and after January 1, 1985, no person may operate to or from an airport in the United States any subsonic airplane covered by this subpart unless that airplane has been shown to comply with Stage 2 or Stage 3 noise levels under Part 36 of this chapter.

### § 91.807 Phased compliance under Parts 121, 125, and 135: Subsonic airplanes.

(a) *General.* Each person operating airplanes under Part 121, 125, or 135 of this chapter, as prescribed under § 91.803 of this subpart, regardless of the state of registry of the airplane, shall comply with this section with respect to subsonic airplanes covered by this subpart.

(b) *Compliance schedules.* Except for airplanes shown to be operated in foreign air commerce under paragraph (c) of this section or covered by an exemption (including those issued under § 91.811), airplanes operated by U.S.

operators in air commerce in the United States must be shown to comply with Stage 2 or Stage 3 noise levels under Part 36 of this chapter, in accordance with the following schedule, or they may not be operated to or from airports in the United States:

(1) By January 1, 1981—

(i) At least one quarter of the airplanes that have four engines with no bypass ratio or with a bypass ratio less than two; and

(ii) At least half of the airplanes powered by engines with any other bypass ratio or by another number of engines.

(2) By January 1, 1983—

(i) At least one half of the airplanes that have four engines with no bypass ratio or with bypass ratio less than two; and

(ii) All airplanes powered by engines with any other bypass ratio or by another number of engines.

(c) *Apportionment of airplanes.* For purposes of paragraph (b) of this section, a person operating airplanes engaged in domestic and foreign air commerce in the United States may elect not to comply with the phased schedule with respect to that portion of the airplanes operated by that person shown, under an approved method of apportionment, to be engaged in foreign air commerce in the United States.

**§ 91.809 Replacement airplanes.**

A Stage 1 airplane may be operated after the otherwise applicable compliance dates prescribed under §§ 91.805 and 91.807 if, under an approved plan, a replacement airplane has been ordered by the operator under a binding contract as follows:

(a) For replacement of an airplane powered by two engines, until January 1, 1986, but not after the date specified in the plan, if the contract is entered into by January 1, 1983, and specifies delivery before January 1, 1986, of a replacement airplane which has been shown to comply with Stage 3 noise levels under Part 36 of this chapter.

(b) For replacement of an airplane powered by three engines, until January 1, 1985, but not after the date specified in the plan, if the contract is entered into by January 1, 1983, and specifies delivery before January 1, 1985, of a replacement airplane which has been shown to comply with Stage 3 noise levels under Part 36 of this chapter.

(c) For replacement of any other airplane, until January 1, 1985, but not after the date specified in the plan, if the contract specifies delivery before January 1, 1985, of a replacement airplane which—

(1) Has been shown to comply with Stage 2 or Stage 3 noise levels under Part 36 of this chapter prior to issuance of an original standard airworthiness certificate; or

(2) Has been shown to comply with Stage 3 noise levels under Part 36 of this chapter prior to issuance of a standard airworthiness certificate other than original issue.

(d) Each operator of a Stage 1 airplane for which approval of a replacement plan is requested under this section shall submit to the Director, Office of Environment and Energy, an application constituting the proposed replacement plan (or revised plan) that contains the information specified under this paragraph and which is certified (under penalty of 18 U.S.C. 1001) as true and correct. Each application for approval must provide information corresponding to that specified in the contract, upon which the FAA may rely in considering its approval, as follows:

(1) Name and address of the applicant.

(2) Aircraft type and model and registration number for each airplane to be replaced under the plan.

(3) Aircraft type and model of each replacement airplane.

(4) Scheduled dates of delivery and introduction into service of each replacement airplane.

(5) Name and addresses of the parties to the contract and any other persons who may effectively cancel the contract or otherwise control the performance of any party.

(6) Information specifying the anticipated disposition of the airplanes to be replaced.

(7) A statement that the contract represents a legally enforceable, mutual agreement for delivery of an eligible replacement airplane.

(8) Any other information or documentation requested by the Director, Office of Environment and Energy, reasonably necessary to determine whether the plan should be approved.

### § 91.811 Service to small communities exemption: Two-engine, subsonic airplanes.

(a) A Stage 1 airplane powered by two engines may be operated after the compliance dates prescribed under §§ 91.805, 91.807, and 91.809 when, with respect to that airplane, the Administrator issues an exemption to the operator from the noise level requirements under this subpart. Each exemption issued under this section terminates on the earliest of the following dates:

(1) For an exempted airplane sold, or otherwise disposed of, to another person on or after January 1, 1983, on the date of delivery to that person.

(2) For an exempted airplane with a seating configuration of 100 passenger seats or less, on January 1, 1988.

(3) For an exempted airplane with a seating configuration of more than 100 passenger seats, on January 1, 1985.

(b) For the purpose of this section, the seating configuration of an airplane is governed by that shown to exist on December 1, 1979, or an earlier date established for that airplane by the Administrator.

### § 91.813 Compliance plans and status: U.S. operations of subsonic airplanes.

(a) Each U.S. operator of a civil subsonic airplane covered by this subpart (regardless of the state of registry) shall submit to the Director, Office of Environment and Energy, in accordance with this section, the operator's current compliance status and plan for achieving and maintaining compliance with the applicable noise level requirements of this subpart. If appropriate, an operator may substitute for the required plan a notice, certified as true (under penalty of 18 U.S.C. 1001) by that operator, that no change in the plan or status of any airplane affected by the plan has occurred since the date of the plan most recently submitted under this section.

(b) Each compliance plan, including each revised plan, must contain the information specified under paragraph (c) of this section for each airplane covered by this section that is operated by the operator. Unless otherwise approved by the Administrator, compliance plans must provide the required plan and status information as it exists on the date 30 days before the date specified for submission of the plan. Plans must be certified by the operator as true and complete (under penalty of 18 U.S.C. 1001) and be submitted for each airplane covered by this section on or before 90 days after initially commencing operation of airplanes covered by this section, whichever is later, and thereafter—

(1) Thirty days after any change in the operator's fleet or compliance planning decisions that has a separate or cumulative effect on 10 percent or more of the airplanes in either class of airplanes covered by § 91.807(b); and

(2) Thirty days after each compliance date applicable to that airplane under this subpart, and annually thereafter through 1985, or until any later date for that airplane prescribed under this subpart, on the anniversary of that submission date, to show continuous compliance with this subpart.

(c) Each compliance plan submitted under this section must identify the operator and include information regarding the compliance plan and status for each airplane covered by the plan as follows:

(1) Name and address of the airplane operator.

(2) Name and telephone number of the person designated by the operator to be responsible for the preparation of the compliance plan and its submission.

(3) The total number of airplanes covered by this section and in each of the following classes and subclasses:

(i) For airplanes engaged in domestic air commerce—

(A) Airplanes powered by four turbojet engines with no bypass ratio or with a bypass ratio less than two;

(B) Airplanes powered by engines with any other bypass ratio or by another number of engines; and

(C) Airplanes covered by an exemption issued under § 91.811 of this subpart.

(ii) For airplanes engaged in foreign air commerce under an approved apportionment plan—

(A) Airplanes powered by four turbojet engines with no bypass ratio or with a bypass ratio less than two;

(B) Airplanes powered by engines with any other bypass ratio or by another number of engines; and

(C) Airplanes covered by an exemption issued under § 91.811 of this subpart.

(4) For each airplane covered by this section—

(i) Aircraft type and model;

(ii) Aircraft registration number;

(iii) Aircraft manufacturer serial number;

(iv) Aircraft powerplant make and model;

(v) Aircraft year of manufacture;

(vi) Whether Part 36 noise level compliance has been shown: "Yes/No";

(vii) The appropriate code prescribed under paragraph (c)(5) of this section which indicates the acoustical technology installed, or to be installed, on the airplane;

(viii) For airplanes on which acoustical technology has been or will be applied, following the appropriate code entry, the actual or scheduled month and year of installation on the airplane;

(ix) For DC–8 and B–707 airplanes operated in domestic U.S. air commerce which have been or will be retired from service in the United States without replacement between January 24, 1977, and January 1, 1985, the appropriate code prescribed under paragraph (c)(5) of this section followed by the actual or scheduled month and year of retirement of the airplane from service;

(x) For DC–8 and B–707 airplanes operated in foreign air commerce in the United States which have been or will be retired from service in the United States without replacement between April 14, 1980, and January 1, 1985, the appropriate code prescribed under paragraph (c)(5) of this section followed by the actual or scheduled month and year of retirement of the airplane from service;

(xi) For airplanes covered by an approved replacement plan under § 91.807(c) of this subpart, the appropriate code prescribed under paragraph (c)(5) of this section followed by the scheduled month and year for replacement of the airplane;

(xii) For airplanes designated as "engaged in foreign commerce" in accordance with an approved method of apportionment under § 91.807(c) of this subpart, the appropriate code prescribed under paragraph (c)(5) of this section;

(xiii) For airplanes covered by an exemption issued to the operator granting relief from noise level requirements of this subpart, the appropriate code prescribed under paragraph (c)(5) of this section followed by the actual or scheduled month and year of expiration of the exemption and the appropriate code and applicable dates which indicate the compliance strategy planned or implemented for the airplane;

(xiv) For all airplanes covered by this section, the number of spare shipsets of acoustical components needed for continuous compliance and the number available on demand to the operator in support of those airplanes; and

(xv) For airplanes for which none of the other codes prescribed under paragraph (c)(5) of this section describes either the technology applied or to be applied to the airplane in accordance with the certification requirements under Parts 21 and 36 of this chapter, or the compliance strategy or methodology following the code "OTH," enter the date of any certificate action and attach an addendum to the plan explaining the nature and extent of the certificated technology, strategy, or methodology employed, with reference to the type certificate documentation.

(5) Table of Acoustical Technology/Strategy Codes

| Code | Airplane type/ model | Certificate technology |
|---|---|---|
| A | B-707-120B<br>B-707-320B/C<br>B-720B | Quiet nacelles + 1-ring |
| B | B-727-100 | Double wall fan duct treatment |
| C | B-727-200 | Double wall fan duct treatment (pre-January 1977 installations and amended type certificate) |
| D | B-727-200<br>B-737-100<br>B-737-200 | Quiet nacelles + double wall fan duct treatment |
| E | B-747-100 (pre-December 1971)<br>B-747-200 (pre-December 1971) | Fixed lip inlets + sound absorbing material treatment |
| F | DC-8 | New extended inlet and bullet with treatment + fan duct treatment areas |
| G | DC-9 | P-36 sound absorbing material treatment kit |
| H | BAC-111-200 | Silencer kit (BAC Acoustic Report 522) |
| I | BAC-111-400 | (To be identified later if certificated) |
| J | B-707<br>DC-8 | Reengined with high bypass ratio turbojet engines + quiet nacelles (if certificated under Stage 3 noise level requirements) |

REP—For airplanes covered by an approved replacement plan under § 91.807(c) of this subpart.

EFC—For airplanes designated as "engaged in foreign commerce" in accordance with an approved method of apportionment under § 91.811 of this subpart.

RET—For DC-8 and B-707 airplanes operated in domestic U.S. air commerce and retired from service in the United States without replacement between January 24, 1977, and January 1, 1985.

RFC—For DC-8 and B-707 airplanes operated by U.S. operators in foreign air commerce in the United States and retired from service in the United States without replacement between April 14, 1980, and January 1, 1985.

EXD—For airplanes exempted from showing compliance with the noise level requirements of this subpart.

OTH—For airplanes for which no other prescribed code describes either the certificated technology applied or to be applied to the airplane, or the compliance strategy or methodology. (An addendum must explain the nature and extent of technology, strategy, or methodology and reference the type certificate documentation.)

### § 91.815 Agricultural and fire fighting airplanes: Noise operating limitations.

(a) This section applies to propeller-driven, small airplanes having standard airworthiness certificates that are designed for "agricultural aircraft operations" (as defined in § 137.3 of this chapter, as effective on January 1, 1966) or for dispensing fire fighting materials.

(b) If the Airplane Flight Manual, or other approved manual material information, markings, or placards for the airplane indicate that the airplane has not been shown to comply with the noise limits under Part 36 of this chapter, no person may operate that airplane, except—

(1) To the extent necessary to accomplish the work activity directly associated with the purpose for which it is designed;

(2) To provide flight crewmember training in the special purpose operation for which the airplane is designed; and

(3) To conduct "nondispensing aerial work operations" in accordance with the requirements under § 137.29(c) of this chapter.

### § 91.817 Civil aircraft sonic boom.

(a) No person may operate a civil aircraft in the United States at a true flight Mach number greater than 1 except in compliance with conditions and limitations in an authorization to exceed Mach 1 issued to the operator under Appendix B of this part.

(b) In addition, no person may operate a civil aircraft for which the maximum operating limit speed $M_{mo}$ exceeds a Mach number of 1, to or from an airport in the United States, unless—

(1) Information available to the flight crew includes flight limitations that ensure that flights entering or leaving the United States will not cause a sonic boom to reach the surface within the United States; and

(2) The operator complies with the flight limitations prescribed in paragraph (b)(1) of this section or complies with conditions and limitations in an authorization to exceed Mach 1 issued under Appendix B of this part.

(Approved by the Office of Management and Budget under OMB control number 2120-0005)

### § 91.819 Civil supersonic airplanes that do not comply with Part 36.

(a) *Applicability.* This section applies to civil supersonic airplanes that have not been shown to comply with the Stage 2 noise limits of Part 36 in effect on October 13, 1977, using ap-

plicable trade-off provisions, and that are operated in the United States, after July 31, 1978.

(b) *Airport use.* Except in an emergency, the following apply to each person who operates a civil supersonic airplane to or from an airport in the United States:

(1) Regardless of whether a type design change approval is applied for under Part 21 of this chapter, no person may land or take off an airplane covered by this section for which the type design is changed, after July 31, 1978, in a manner constituting an "acoustical change" under § 21.93 unless the acoustical change requirements of Part 36 are complied with.

(2) No flight may be scheduled, or otherwise planned, for takeoff or landing after 10 p.m. and before 7 a.m. local time.

### § 91.821 Civil supersonic airplanes: Noise limits.

Except for Concorde airplanes having flight time before January 1, 1980, no person may operate in the United States, a civil supersonic airplane that does not comply with the Stage 2 noise limits of Part 36 in effect on October 13, 1977, using applicable trade-off provisions.

### §§ 91.823—91.899 [Reserved]

## Subpart J—Waivers

### § 91.901 [Reserved]

### § 91.903 Policy and procedures.

(a) The Administrator may issue a certificate of waiver authorizing the operation of aircraft in deviation from any rule listed in this subpart if the Administrator finds that the proposed operation can be safely conducted under the terms of that certificate of waiver.

(b) An application for a certificate of waiver under this part is made on a form and in a manner prescribed by the Administrator and may be submitted to any FAA office.

(c) A certificate of waiver is effective as specified in that certificate of waiver.

### § 91.905 List of rules subject to waivers.

*Sec.*

91.107 Use of safety belts.
91.111 Operating near other aircraft.
91.113 Right-of-way rules: Except water operations.
91.115 Right-of-way rules: Water operations.
91.117 Aircraft speed.
91.119 Minimum safe altitudes: General.
91.121 Altimeter settings.
91.123 Compliance with ATC clearances and instructions.
91.125 ATC light signals.
91.127 Operating on or in the vicinity of an airport: General rules.
91.129 Operating at airports with operating control towers.
91.131 Terminal control areas.
91.133 Restricted and prohibited areas.
91.135 Positive control areas and route segments.
91.137 Temporary flight restrictions.
91.141 Flight restrictions in the proximity of the Presidential and other parties.
91.143 Flight limitation in the proximity of space flight operations.
91.153 VFR flight plan: Information required.
91.155 Basic VFR weather minimums.
91.157 Special VFR weather minimums.
91.159 VFR Cruising altitude or flight level.
91.169 IFR flight plan: Information required.
91.173 ATC clearance and flight plan required.
91.175 Takeoff and landing under IFR.
91.177 Minimum altitudes for IFR operations.
91.179 IFR cruising altitude or flight level.
91.181 Course to be flown.
91.183 IFR radio communications.
91.185 IFR operations: Two-way radio communications failure.
91.187 Operation under IFR in controlled airspace: Malfunction reports.
91.209 Aircraft lights.
91.303 Aerobatic lights.
91.305 Flight test areas.
91.311 Towing: Other than under § 91.309.
91.313(e) Restricted category civil aircraft: Operating limitations.
91.515 Flight altitude rules.
91.705 Operations within the North Atlantic Minimum Navigation Performance Specifications Airspace.
91.707 Flights between Mexico or Canada and the United States.
91.713 Operations of civil aircraft of Cuban registry.

### §§ 91.907—91.999 [Reserved]

# APPENDIX A

## Category II Operations: Manual, Instruments, Equipment, and Maintenance

**1. Category II manual.**

(a) *Application for approval.* An applicant for approval of a Category II manual or an amendment to an approved Category II manual must submit the proposed manual or amendment to the Flight Standards District Office having jurisdiction of the area in which the applicant is located. If the application requests an evaluation program, it must include the following:

(1) The location of the aircraft and the place where the demonstrations are to be conducted; and

(2) The date the demonstrations are to commence (at least 10 days after filing the application).

(b) *Contents.* Each Category II manual must contain:

(1) The registration number, make, and model of the aircraft to which it applies;

(2) A maintenance program as specified in § 4 of this appendix; and

(3) The procedures and instructions related to recognition of decision height, use of runway visual range information, approach monitoring, the decision region (the region between the middle marker and the decision height), the maximum permissible deviations of the basic ILS indicator within the decision region, a missed approach, use of airborne low approach equipment, minimum altitude for the use of the autopilot, instrument and equipment failure warning systems, instrument failure, and other procedures, instructions, and limitations that may be found necessary by the Administrator.

**2. Required instruments and equipment.**

The instruments and equipment listed in this section must be installed in each aircraft operated in a Category II operation. This section does not require duplication of instruments and equipment required by § 91.205 or any other provisions of this chapter.

(a) *Group I.*

(1) Two localizer and glide slope receiving systems. Each system must provide a basic ILS display and each side of the instrument panel must have a basic ILS display. However, a single localizer antenna and a single glide slope antenna may be used.

(2) A communications system that does not affect the operation of at least one of the ILS systems.

(3) A marker beacon receiver that provides distinctive aural and visual indications of the outer and the middle markers.

(4) Two gyroscopic pitch and bank indicating systems.

(5) Two gyroscopic direction indicating systems.

(6) Two airspeed indicators.

(7) Two sensitive altimeters adjustable for barometric pressure, each having a placarded correction for altimeter scale error and for the wheel height of the aircraft. After June 26, 1979, two sensitive altimeters adjustable for barometric pressure, having markings at 20-foot intervals and each having a placarded correction for altimeter scale error and for the wheel height of the aircraft.

(8) Two vertical speed indicators.

(9) A flight control guidance system that consists of either an automatic approach coupler or a flight director system. A flight director system must display computed information as steering command in relation to an ILS localizer and, on the same instrument, either computed information as pitch command in relation to an ILS glide slope or basic ILS glide slope information. An automatic approach coupler must provide at least automatic steering in relation to an ILS

localizer. The flight control guidance system may be operated from one of the receiving systems required by subparagraph (1) of this paragraph.

(10) For Category II operations with decision heights below 150 feet either a marker beacon receiver providing aural and visual indications of the inner marker or a radio altimeter.

(b) *Group II.*

(1) Warning systems for immediate detection by the pilot of system faults in items (1), (4), (5), and (9) of Group I and, if installed for use in Category III operations, the radio altimeter and autothrottle system.

(2) Dual controls.

(3) An externally vented static pressure system with an alternate static pressure source.

(4) A windshield wiper or equivalent means of providing adequate cockpit visibility for a safe visual transition by either pilot to touch down and rollout.

(5) A heat source for each airspeed system pitot tube installed or an equivalent means of preventing malfunctioning due to icing of the pitot system.

**3. Instruments and equipment approval.**

(a) *General.* The instruments and equipment required by § 2 of this appendix must be approved as provided in this section before being used in Category II operations. Before presenting an aircraft for approval of the instruments and equipment, it must be shown that since the beginning of the 12th calendar month before the date of submission—

(1) The ILS localizer and glide slope equipment were bench checked according to the manufacturer's instructions and found to meet those standards specified in RTCA Paper 23-63/DO-117 dated March 14, 1963, "Standard Adjustment Criteria for Airborne Localizer and Glide Slope Receivers," which may be obtained from the RTCA Secretariat, 1425 K St., N.W., Washington, D.C. 20005.

(2) The altimeters and the static pressure systems were tested and inspected in accordance with Appendix E to Part 43 of this chapter; and

(3) All other instruments and items of equipment specified in § 2(a) of this appendix that are listed in the proposed maintenance program were bench checked and found to meet the manufacturer's specifications.

(b) *Flight control guidance system.* All components of the flight control guidance system must be approved as installed by the evaluation program specified in paragraph (e) of this section if they have not been approved for Category III operations under applicable type or supplemental type certification procedures. In addition, subsequent changes to make, model, or design of the components must be approved under this paragraph. Related systems or devices, such as the autothrottle and computed missed approach guidance system, must be approved in the same manner if they are to be used for Category II operations.

(c) *Radio altimeter.* A radio altimeter must meet the performance criteria of this paragraph for original approval and after each subsequent alteration.

(1) It must display to the flight crew clearly and positively the wheel height of the main landing gear above the terrain.

(2) It must display wheel height above the terrain to an accuracy of plus or minus 5 feet or 5 percent, whichever is greater, under the following conditions:

(i) Pitch angles of zero to plus or minus 5 degrees about the mean approach attitude.

(ii) Roll angles of zero to 20 degrees in either direction.

(iii) Forward velocities from minimum approach speed up to 200 knots.

(iv) Sink rates from zero to 15 feet per second at altitudes from 100 to 200 feet.

(3) Over level ground, it must track the actual altitude of the aircraft without significant lag or oscillation.

(4) With the aircraft at an altitude of 200 feet or less, any abrupt change in terrain representing no more than 10 percent of the aircraft's altitude must not cause the altimeter to unlock, and indicator response to such changes must not exceed 0.1 seconds and, in addition, if the system unlocks for greater changes, it must reacquire the signal in less than 1 second.

(5) Systems that contain a push-to-test feature must test the entire system (with or without an antenna) at a simulated altitude of less than 500 feet.

(6) The system must provide to the flight crew a positive failure warning display any time there is a loss of power or an absence of ground return signals within the designed range of operating altitudes.

(d) *Other instruments and equipment.* All other instruments and items of equipment required by § 2 of this appendix must be capable of performing as necessary for Category II operations. Approval is also required after each subsequent alteration to these instruments and items of equipment.

(e) *Evaluation program.*

(1) *Application.* Approval by evaluation is requested as a part of the application for approval of the Category II manual.

(2) *Demonstrations.* Unless otherwise authorized by the Administrator, the evaluation program for each aircraft requires the demonstrations specified in this paragraph. At least 50 ILS approaches must be flown with at least five approaches on each of three different ILS facilities and no more than one half of the total approaches on any one ILS facility. All approaches shall be flown under simulated instrument conditions to a 100-foot decision height and 90 percent of the total approaches made must be successful. A successful approach is one in which—

(i) At the 100-foot decision height, the indicated airspeed and heading are satisfactory for a normal flare and landing (speed must be plus or minus 5 knots of programmed airspeed, but may not be less than computed threshold speed if autothrottles are used);

(ii) The aircraft at the 100-foot decision height, is positioned so that the cockpit is within, and tracking so as to remain within, the lateral confines of the runway extended;

(iii) Deviation from glide slope after leaving the outer marker does not exceed 50 percent of full-scale deflection as displayed on the ILS indicator;

(iv) No unusual roughness or excessive attitude changes occur after leaving the middle marker; and

(v) In the case of an aircraft equipped with an approach coupler, the aircraft is sufficiently in trim when the approach coupler is disconnected at the decision height to allow for the continuation of a normal approach and landing.

(3) *Records.* During the evaluation program the following information must be maintained by the applicant for the aircraft with respect to each approach and made available to the Administrator upon request:

(i) Each deficiency in airborne instruments and equipment that prevented the initiation of an approach.

(ii) The reasons for discontinuing an approach, including the altitude above the runway at which it was discontinued.

(iii) Speed control at the 100-foot decision height if autothrottles are used.

(iv) Trim condition of the aircraft upon disconnecting the auto coupler with respect to continuation to flare and landing.

(v) Position of the aircraft at the middle marker and at the decision height indicated both on a diagram of the basic ILS display and a diagram of the runway extended to the middle marker. Estimated touchdown point must be indicated on the runway diagram.

(vi) Compatibility of flight director with the auto coupler, if applicable.

(vii) Quality of overall system performance.

(4) *Evaluation.* A final evaluation of the flight control guidance system is made upon successful completion of the demonstrations. If no hazardous tendencies have been displayed or are otherwise known to exist, the system is approved as installed.

**4. Maintenance program.**

(a) Each maintenance program must contain the following:

(1) A list of each instrument and item of equipment specified in § 2 of this appendix

that is installed in the aircraft and approved for Category II operations, including the make and model of those specified in § 2(a).

(2) A schedule that provides for the performance of inspections under subparagraph (5) of this paragraph within 3 calendar months after the date of the previous inspection. The inspection must be performed by a person authorized by Part 43 of this chapter, except that each alternate inspection may be replaced by a functional flight check. This functional flight check must be performed by a pilot holding a Category II pilot authorization for the type aircraft checked.

(3) A schedule that provides for the performance of bench checks for each listed instrument and item of equipment that is specified in § 2(a) within 12 calendar months after the date of the previous bench check.

(4) A schedule that provides for the performance of a test and inspection of each static pressure system in accordance with Appendix E to Part 43 of this chapter within 12 calendar months after the date of the previous test and inspection.

(5) The procedures for the performance of the periodic inspections and functional flight checks to determine the ability of each listed instrument and item of equipment specified in § 2(a) of this appendix to perform as approved for Category II operations including a procedure for recording functional flight checks.

(6) A procedure for assuring that the pilot is informed of all defects in listed instruments and items of equipment.

(7) A procedure for assuring that the condition of each listed instrument and item of equipment upon which maintenance is performed is at least equal to its Category II approval condition before it is returned to service for Category II operations.

(8) A procedure for an entry in the maintenance records required by § 43.9 of this chapter that shows the date, airport, and reasons for each discontinued Category II operation because of a malfunction of a listed instrument or item of equipment.

(b) *Bench check.* A bench check required by this section must comply with this paragraph.

(1) It must be performed by a certificated repair station holding one of the following ratings as appropriate to the equipment checked:

(i) An instrument rating.

(ii) A radio rating.

(iii) A rating issued under Subpart D of Part 145 of this chapter.

(2) It must consist of removal of an instrument or item of equipment and performance of the following:

(i) A visual inspection for cleanliness, impending failure, and the need for lubrication, repair, or replacement of parts;

(ii) Correction of items found by that visual inspection; and

(iii) Calibration to at least the manufacturer's specifications unless otherwise specified in the approved Category II manual for the aircraft in which the instrument or item of equipment is installed.

(c) *Extensions.* After the completion of one maintenance cycle of 12 calendar months, a request to extend the period for checks, tests, and inspections is approved if it is shown that the performance of particular equipment justifies the requested extension.

# APPENDIX B

## Authorizations to Exceed Mach 1 (§ 91.817)

Section 1. *Application.*

(a) An applicant for an authorization to exceed Mach 1 must apply in a form and manner prescribed by the Administrator and must comply with this appendix.

(b) In addition, each application for an authorization to exceed Mach 1 covered by section 2(a) of this appendix must contain all information requested by the Administrator necessary to assist him in determining whether the designation of a particular test area or issuance of a particular authorization is a "major Federal action significantly affecting the quality of the human environment" within the meaning of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), and to assist him in complying with that act and with related Executive Orders, guidelines, and orders prior to such action.

(c) In addition, each application for an authorization to exceed Mach 1 covered by section 2(a) of this appendix must contain—

(1) Information showing that operation at a speed greater than Mach 1 is necessary to accomplish one or more of the purposes specified in section 2(a) of this appendix, including a showing that the purpose of the test cannot be safely or properly accomplished by overocean testing;

(2) A description of the test area proposed by the applicant, including an environmental analysis of that area meeting the requirements of paragraph (b) of this section; and

(3) Conditions and limitations that will ensure that no measurable sonic boom overpressure will reach the surface outside of the designated test area.

(d) An application is denied if the Administrator finds that such action is necessary to protect or enhance the environment.

Section 2. *Issuance.*

(a) For a flight in a designated test area, an authorization to exceed Mach 1 may be issued when the Administrator has taken the environmental protective actions specified in § 1(b) of this appendix and the applicant shows one or more of the following:

(1) The flight is necessary to show compliance with airworthiness requirements.

(2) The flight is necessary to determine the sonic boom characteristics of the airplane or to establish means of reducing or eliminating the effects of sonic boom.

(3) The flight is necessary to demonstrate the conditions and limitations under which speeds greater than a true flight Mach number of 1 will not cause a measurable sonic boom overpressure to reach the surface.

(b) For a flight outside of a designated test area, an authorization to exceed Mach 1 may be issued if the applicant shows conservatively under paragraph (a) (3) of this section that—

(1) The flight will not cause a measurable sonic boom overpressure to reach the surface when the aircraft is operated under conditions and limitations demonstrated under paragraph (a) (3) of this section; and

(2) Those conditions and limitations represent all foreseeable operating conditions.

Section 3. *Duration.*

(a) An authorization to exceed Mach 1 is effective until it expires or is surrendered, or until it is suspended or terminated by the Administrator. Such an authorization may be amended or suspended by the Administrator at any time if the Administrator finds that such action is necessary to protect the environment. Within 30 days of notification of amendment, the holder of the authorization must request

reconsideration or the amendment becomes final. Within 30 days of notification of suspension, the holder of the authorization must request reconsideration or the authorization is automatically terminated. If reconsideration is requested within the 30-day period, the amendment or suspension continues until the holder shows why the authorization should not be amended or terminated. Upon such showing, the Administrator may terminate or amend the authorization if the Administrator finds that such action is necessary to protect the environment, or he may reinstate the authorization without amendment if he finds that termination or amendment is not necessary to protect the environment.

(b) Findings and actions by the Administrator under this section do not affect any certificate issued under Title VI of the Federal Aviation Act of 1958.

## APPENDIX C

### Operations in the North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace

*Section 1.* NAT MNPS airspace is that volume of airspace between FL 275 and FL 400 extending between latitude 27 degrees north and the North Pole, bounded in the east by the eastern boundaries of control areas Santa Maria Oceanic, Shanwick Oceanic, and Reykjavik Oceanic and in the west by the western boundary of Reykjavik Oceanic Control Area, the western boundary of Gander Oceanic Control Area, and the western boundary of New York Oceanic Control Area, excluding the areas west of 60 degrees west and south of 38 degrees 30 minutes north.

*Section 2.* The navigation performance capability required for aircraft to be operated in the airspace defined in § 1 of this appendix is as follows:

(a) The standard deviation of lateral track errors shall be less than 6.3 NM (11.7 Km). Standard deviation is a statistical measure of data about a mean value. The mean is zero nautical miles. The overall form of data is such that the plus and minus 1 standard deviation about the mean encompasses approximately 68 percent of the data and plus or minus two deviations encompasses approximately 95 percent.

(b) The proportion of the total flight time spent by aircraft 30 NM (55.6 Km) or more off the cleared track shall be less than $5.3 \times 10^{-4}$ (less than one hour in 1,887 flight hours.)

(c) The proportion of the total flight time spent by aircraft between 50 NM and 70 NM (92.6 Km and 129.6 Km) off the cleared track shall be less than $13 \times 10^{-5}$ (less than one hour in 7,693 flight hours).

*Section 3.* Air traffic control (ATC) may authorize an aircraft operator to deviate from the requirements of § 91.705 for a specific flight if, at the time of flight plan filing for that flight, ATC determines that the aircraft may be provided appropriate separation and that the flight will not interfere with, or impose a burden upon, the operations of other aircraft which meet the requirements of § 91.705.

## APPENDIX D

### Airports/Locations Where the Transponder Requirements of Section 91.215(b)(5)(ii) Apply

*Section 1.* The requirements of § 91.215 (b)(5)(ii) apply to operations in the vicinity of each of the following airports.

Logan International Airport, Billings MT.

Hector International Airport, Fargo, ND.

## APPENDIX E — AIRPLANE FLIGHT RECORDER SPECIFICATIONS

| Parameters | Range | Installed system[1] minimum accuracy (to recovered data) | Sampling interval (per second) | Resolution[4] read out |
|---|---|---|---|---|
| Relative Time (From Recorded on Prior to Takeoff). | 8 hr minimum | ±0.125% per hour | 1 | 1 sec. |
| Indicated Airspeed | Vso to VD (KIAS) | ±5% or ±10 kts., whichever is greater. Resolution 2 kts. below 175 KIAS. | 1 | 1%[3] |
| Altitude | -1,000 ft. to max cert. alt. of A/C | ±100 to ±700 ft. (see Table 1, TSO C51-a). | 1 | 25 to 150 ft. |
| Magnetic Heading | 360° | ±5° | 1 | 1° |
| Vertical Acceleration | -3g to +6g | ±0.2g in addition to ±0.3g maximum datum. | 4 (or 1 per second where peaks, ref. to 1g are recorded). | 0.03g. |
| Longitudinal Acceleration | ±1.0g | ±1.5% max. range excluding datum error of ±5%. | 2 | 0.01g. |
| Pitch Attitude | 100% of usable | ±2° | 1 | 0.8° |
| Roll Attitude | ±60° or 100% of usable range, whichever is greater. | ±2° | 1 | 0.8° |
| Stabilizer Trim Position, or | Full Range | ±3% unless higher uniquely required | 1 | 1%[3] |
| Pitch Control Position | Full Range | ±3% unless higher uniquely required | 1 | 1%[3] |
| Engine Power, Each Engine: | | | | |
| Fan or N1 Speed or EPR or Cockpit Indications Used for Aircraft Certification OR. | Maximum Range | ±5% | 1 | 1%[3] |
| Prop. speed and Torque (Sample Once/Sec as Close together as Practicable). | | | 1 (prop Speed)<br>1 (torque) | 1%[3]<br>1%[3] |
| Altitude Rate[2] (need depends on altitude resolution). | ±8,000 fpm | ±10%. Resolution 250 fpm below 12,000 ft. indicated. | 1 | 250 fpm. below 12,000 |
| Angle of Attack[2] (need depends on altitude resolution). | -20° to 40° or 100% of usable range | ±2° | 1 | 0.8%[3] |
| Radio Transmitter Keying (Discrete) | On/Off | | 1 | |
| TE Flaps (Discrete or Analog) | Each discrete position (U, D, T/O, AAP) OR<br>Analog 0-100% range | | 1 | 1%[3] |
| LE Flaps (Discrete or Analog) | Each discrete position (U, D, T/O, AAP) OR<br>Analog 0-100% range | ±3° | 1 | 1%[3] |
| Thrust Reverser, Each Engine (Discrete) | Stowed or full reverse | ±3° | 1 | |
| Spoiler/Speedbrake (Discrete) | Stowed or out | | 1 | |
| Autopilot Engaged (Discrete) | Engaged or Disengaged | | 1 | |

1 When data sources are aircraft instruments (except altimeters) of acceptable quality to fly the aircraft the recording system excluding these sensors (but including all other characteristics of the recording system) shall contribute no more than half of the values in this column.

2 If data from the altitude encoding altimeter (100 ft. resolution) is used, then either one of these parameters should also be recorded. If however, altitude is recorded at a minimum resolution of 25 feet, then these two parameters can be omitted.

3 Per cent of full range.

4 This column applies to aircraft manufactured after October 11, 1991.

## APPENDIX F — HELICOPTER FLIGHT RECORDER SPECIFICATIONS

| Parameters | Range | Installed system[1] minimum accuracy (to recovered data) | Sampling interval (per second) | Resolution[3] read out |
|---|---|---|---|---|
| Relative Time (From Recorded on Prior to Takeoff). | 4 hr minimum | ±0.125% per hour | 1 | 1 sec. |
| Indicated Airspeed | VM in to VD (KIAS) (minimum airspeed signal attainable with installed pilot-static system). | ±5% or ±10 kts., whichever is greater | 1 | 1 kt. |
| Altitude | -1,000 ft. to 20,000 ft. pressure altitude | ±100 to ±700 ft. (see Table 1, TSO C51-a). | 1 | 25 to 150 ft. |
| Magnetic Heading | 360° | ±5° | 1 | 1° |
| Vertical Acceleration | -3g to +6g | ±0.2g in addition to ±0.3g maximum datum. | 4 (or 1 per second where peaks, ref. to 1g are recorded). | 0.05g. |
| Longitudinal Acceleration | ±1.0g | ±1.5% max. range excluding datum error of ±5%. | 2 | 0.03g. |
| Pitch Attitude | 100% of usable range | ±2° | 1 | 0.8° |
| Roll Attitude | ±60 or 100% of usable range, whichever is greater. | ±2° | 1 | 0.8° |
| Altitude Rate | ±8,000 fpm | ±10% Resolution 250 fpm below 12,000 ft. indicated. | 1 | 250 fpm below 12,000. |
| **Engine Power, Each Engine** | | | | |
| Main Rotor Speed | Maximum Range | ±5% | 1 | 1%[2] |
| Free or Power Turbine | Maximum Range | ±5% | 1 | 1%[2] |
| Engine Torque | Maximum Range | ±5% | 1 | 1%[2] |
| **Flight Control Hydraulic Pressure** | | | | |
| Primary (Discrete) | High/Low | | 1 | |
| Secondary-if applicable (Discrete) | High/Low | | 1 | |
| Radio Transmitter Keying (Discrete) | On/Off | | 1 | |
| Autopilot Engaged (Discrete) | Engaged or Disengaged | | 1 | |
| SAS Status-Engaged (Discrete) | Engaged or Disengaged | | 1 | |
| SAS Fault Status (Discrete) | Fault/OK | | 1 | |
| **Flight Controls** | | | | |
| Collective | Full range | ±3% | 2 | 1%[2] |
| Pedal Position | Full range | ±3% | 2 | 1%[2] |
| Lat. Cyclic | Full range | ±3% | 2 | 1%[2] |
| Long. Cyclic | Full range | ±3% | 2 | 1%[2] |
| Controllable Stabilator Position | Full range | ±3% | 2 | 1%[2] |

1 When data sources are aircraft instruments (except altimeters) of acceptable quality to fly the aircraft the recording system excluding these sensors (but including all other characteristics of the recording system) shall contribute no more than half of the values in this column.

2 Per cent of full range.

3 This column applies to aircraft manufactured after October 11, 1991.

## Special Federal Aviation Regulation 21

### Southern Rhodesia—Aviation Sanctions

**Adopted: September 10, 1968** **Effective: September 18, 1968**

(Published in 33 FR 14103, September 18, 1968)

The purpose of this special regulation is to prohibit: (1) the carriage on aircraft registered under United States laws, or under charter to any person subject to United States jurisdiction, of certain commodities or products either originating in Southern Rhodesia except for licensed items, or any commodity or product, consigned to anyone for business carried on in or operated from that country, except licensed items; and (2) the operation of any aircraft by a United States air carrier, or operation by any person of any aircraft owned or chartered by any person subject to United States jurisdiction, to or from Southern Rhodesia or in coordination with an airline company constituted, or aircraft registered, in that country.

This regulation implements Executive Order 11419, dated July 29, 1968 (33 F.R. 10837), that delegated to the Secretary of Transportation the function and responsibility of enforcement relating to the operation of air carriers and aircraft and the carriage on aircraft of any commodities or products the carriage of which is prohibited by section 1 of Executive Order No. 11322 of January 5, 1967. The Secretary of Transportation has redelegated that function and responsibility to the Administrator (33 F.R. 12963).

Because of the emergency nature of this matter, I find that notice and public procedure on this special regulation would be impracticable and that it may be made effective on less than 30 days' notice.

In consideration of the foregoing, Special Federal Aviation Regulation 21 is hereby adopted to become effective September 18, 1968.

This Special Federal Aviation Regulation is issued under the authority of E.O. 11322, January 5, 1967; E.O. 11419, July 29, 1968; sec. 5, 59 Stat. 620, sec. 3, 63 Stat. 735, 22 U.S.C. 287c.

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NOTE.—The reporting and recordkeeping requirements contained herein have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

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## Special Federal Aviation Regulation 21-1

### Southern Rhodesia—Aviation Sanctions

**Adopted: January 6, 1970** **Effective: January 14, 1970**

(Published in 35 FR 529, January 15, 1970)

The purpose of this amendment to Special Federal Aviation Regulation No. 21 is to clarify the provision prohibiting operation of aircraft in coordination with any airline company constitued, or aircraft registered, in Southern Rhodesia.

It appears that the prohibitions of this regulation may be construed as going beyond the intent of the Executive Order it implements (E.O. 11419 dated July 29, 1968 (33 F.R. 10837)). This portion of the regulation is therefore clarified to conform with the intent of E.O. 11419 that United States air carriers are not prohibited from operating in coordination with other air carriers, except one constituted in Southern Rhodesia. This amendment has been coordinated with the Secretary of State before issuance.

Since this amendment is only clarifying, I find that notice and public procedure are unnecessary and that it may be made effective on less than 30 days' notice.

In consideration of the foregoing, subparagraph (c)(2) of section 2 of Special Federal Aviation Regulation 21 is amended, effective January 14, 1970.

This amendment is issued under the authority of E.O. 11322, January 5, 1967; E.O. 11419, July 29, 1968; sec. 5, 59 Stat. 620, sec. 3, 63 Stat. 735, 22 U.S.C. sec. 287c.

## Special Federal Aviation Regulation 21-2

## Southern Rhodesia—Aviation Sanctions

**Adopted: December 27, 1979** **Effective: January 7, 1980**

(Published in 45 FR 1414, January 7, 1980)

SUMMARY: This action terminates the prohibition of aviation operations and carriage of commodities and products to and from Southern Rhodesia. This action is required by Executive Order No. 12183.

FOR FURTHER INFORMATION CONTACT:

Mr. Jonathan Howe, Deputy Chief Counsel, Office of the Chief Counsel, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591, Telephone (202) 426-3775.

SUPPLEMENTARY INFORMATION:

History

Special Federal Aviation Regulation No. 21 was issued by the Administrator on September 10, 1968. That regulation implemented Executive Order No. 11419, dated July 29, 1968 (33 FR 10837), which delegated to the Secretary of Transportation the function and responsibility of enforcement of sanctions against Southern Rhodesia relating to the operation of air carriers and aircraft and the carriage on aircraft of any commodities or products the carriage of which was prohibited by Section 1 of Executive Order No. 11419 or by Section 1 of Executive Order No. 11322, dated January 5, 1967 (32 FR 119).

Specifically, Special Federal Aviation Regulation No. 21 prohibited: (1) the carriage, on aircraft registered under U.S. laws or under charter to any person subject to U.S. jurisdiction, of certain commodities or products either originating in Southern Rhodesia, except for licensed items, or any commodity or product, consigned to anyone for business carried on in or operated from that country, except for licensed items; and (2) the operation of any aircraft by any person subject to U.S. jurisdiction, to or from Southern Rhodesia or in coordination with an airline company constituted, or aircraft registered, in that country.

Amendment of Regulation

This regulation implements Executive Order No. 12183, dated December 16, 1979, which revoked Executive Orders 11322, 11419, and 11978 with respect to transactions occurring after the effective date of Executive Order No. 12183, and which required the Secretary of Transportation to implement the Order. The Secretary of Transportation has redelegated that function and responsibility to the Administrator. In accordance with Executive Order No. 12183, this action amends Special Federal Aviation Regulation No. 21 by revoking all the prohibitions on transactions with Rhodesia. The Federal Aviation Administration retains the authority to investigate any violation of any provision of Special Federal Aviation Regulation No. 21 that occurred prior to the effective date of Executive Order No. 12183, and to institute appropriate enforcement measures.

In keeping with the retention of FAA investigatory and enforcement authority, the record keeping, reporting, and penalty provisions of Special Federal Aviation Regulation No. 21 have not been revoked. However, the record keeping and reporting provisions have been revised so as to limit their application to transactions occurring prior to December 16, 1979, the effective date of Executive Order No. 12183.

Since the Executive Order implemented by Special Federal Aviation Regulation No. 21 has been revoked, notice and comment on its amendment are unnecessary and good cause exists for making this amendment effective in less than 30 days.

AMENDMENT OF SPECIAL FEDERAL AVIATION REGULATION NO. 21

Accordingly, Special Federal Aviation Regulation No. 21 is hereby amended by revoking §§ 1, 2, and 3 and by revising §§ 4 and 5. (E.O. 12183, December 16, 1979, Sec. 5, Stat. 620, as amended, 22 U.S.C. 287c).

(NOTE: The Federal Aviation Administration has determined that this document involves a regulation which is not significant under Executive Order No. 12044 as implemented by DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

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## Special Federal Aviation Regulation 21

## Southern Rhodesia—Aviation Sanctions

1. [Revoked]

2. [Revoked]

3. [Revoked]

4. *Records.* (a) Each person who engaged in any carriage or operation subject to Special Federal Aviation Regulation No. 21 before December 16, 1979, shall make a full and accurate record of each carriage or operation of this kind in which he engaged, regardless of whether it was effected pursuant to license or otherwise, and shall keep the record available for at least two years after the date of carriage or operation.

(b) This section does not require any particular method of recordkeeping and does not require any change in the system of records customarily kept by the person concerned, so long as the records supply an adequate basis for examination. Records may be kept in the form of microfilm or other photographic copies.

5. *Reports.* Each person who participated in any carriage or operation covered by Special Federal Aviation Regulation No. 21 before December 16, 1979, shall submit such reports on his activities under that special regulation as the Administrator may require.

6. *Penalties.* (a) Attention is directed to section 5(b) of the United Nations Participation Act of 1945 (22 U.S.C. sec. 287c), which provides in part:

> "Any person who willfully violates or evades or attempts to violate or evade any order, rule, or regulation issued by the President pursuant to subsection (a) of this section shall, upon conviction be fined not more than $10,000, or, if a natural person, be imprisoned for not more than 10 years, or both, and the officer, director, or agent of any corporation who knowingly participates in such violation or evasion shall be punished by a like fine, imprisonment, or both, and any property, funds, securities, papers, or other articles or documents, or any vessel, together with her tackle, apparel, furniture, and equipment, or vehicle, or aircraft, concerned in such violation shall be forfeited to the United States." (Dec. 20, 1945, ch. 583, sec. 5, 59 Stat. 620; Oct. 10, 1949, ch. 660, sec. 3, 63 Stat. 735).

This section of the United Nations Participation Act of 1945 is applicable to violations of any provisions of this special regulation and to violations of the provisions of any ruling, regulation, order, direction, or instruction issued pursuant to this special regulation under section 5 of the United Nations Participation Act, E.O. 11322, and E.O. 11419.

(b) Attention is also directed to 18 U.S.C. 1001 which provides:

> "Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisioned not more than 5 years, or both.

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# Special Federal Aviation Regulation 27-5

## Fuel Venting and Exhaust Emission Requirements For Turbine Engine Powered Airplanes: Compliance with Revised EPA Emission Standards and Test Procedures

**Adopted: December 8, 1983** **Effective: January 1, 1984**

(Published in 48 FR 56735, December 23, 1983)

SUMMARY: This amendment to the FAA airplane emissions rule is necessary because of the revised requirements of 40 CFR Part 87, Control of Air Pollution from Aircraft and Aircraft Engines; Emission Standards and Test Procedures as amended effective January 31, 1983 (47 FR 58462). 40 CFR Part 87 includes new exhaust emission requirements for all aircraft engines manufactured on or after January 1, 1984. This amendment is in accordance with section 232 of the Clean Air Act, as amended, (42 USC § 7401) and the authority delegated to the Administrator of the FAA by the Secretary of Transportation.

COMPLIANCE—January 1, 1984 or as noted. The Director of the FEDERAL REGISTER approved the incorporation by reference of the compliance procedures set forth in Appendices 2 through 6 of ICAO ANNEX 16 Volume II—Aircraft Engine Emissions, dated February 18, 1982, effective January 1, 1984.

FOR FURTHER INFORMATION CONTACT:

Nicholas P. Krull, Air Quality Division (AEE-300), Office of Environment and Energy, Federal Aviation Administration, 800 Independence Avenue, SW, Washington, D.C. 20591, telephone (202) 755-1851).

SUPPLEMENTARY INFORMATION:

HISTORY

Under section 232 of the Clean Air Act of 1970, as amended, (the Act) (42 USC § 7401), the FAA has a duty to issue regulations that ensure compliance with all aircraft emission standards promulgated by the EPA pursuant to section 231 of the Act. The EPA aircraft emission standards are currently prescribed in EPA Regulations Part 87 (40 CFR Part 87), originally issued on July 6, 1973, and published in the Federal Register (38 FR 19088) on July 17, 1973.

Pursuant to § 232 of the Act, on December 26, 1973, the FAA issued Special Federal Aviation Regulation (SFAR) 27 (38 FR 35437; December 28, 1973). The purpose of SFAR 27 was to ensure compliance with aircraft and aircraft engine emission standards and test procedures issued by the EPA in 40 CFR Part 87.

SFAR 27, as originally issued, governed compliance with only those standards and procedures in EPA Part 87 that were to become effective on February 1, 1974. On December 23, 1974, the FAA issued SFAR 27-1 (39 FR 45008; December 30, 1974) to require compliance with the fuel venting emission standards in EPA Part 87 that became effective on January 1, 1975. SFAR 27-2, effective January 1, 1976 (40 FR 55311; November 28, 1975), governs compliance with smoke emissions standards in EPA's Part 87 applicable to new and in-use aircraft turbofan or turbojet engines with a rated power of 29,000 pounds thrust or greater, that are designed for installation and operation on subsonic airplanes. SFAR 27-3, effective January 1, 1978 (42 FR 64876; December 29, 1977) regulates compliance of JT3D engines manufactured on and after January 1, 1978, with smoke emissions standards in EPA's Part 87. Finally, SFAR 27-4, effective December 1, 1980 (45 FR 71960; October 30 1980), was issued to require phased compliance of in-use JT3D engines beginning on January 1, 1981, with total compliance required by January 1, 1985. Pursuant to § 3(b) of SFAR 27, the requirement for

compliance of in-use JT3D engines was automatically deleted when the EPA deleted the requirement from 40 CFR Part 87 (48 FR 2716; January 20, 1983).

On December 30, 1982, the EPA completed rulemaking which revised 40 CFR Part 87 and republished the rule in its entirety (47 FR 58462; December 30, 1982). The revised rule contains a number of changes in definitions as well as new standards for smoke and unburned hydrocarbon emissions. The compliance date for the new smoke and unburned hydrocarbon emission standards has been scheduled to take effect January 1, 1984. On September 23, 1983, the FAA issued Notice No. 83–12 (48 FR 43637; September 23, 1983), which proposed a revised SFAR 27–5 to include the new requirements of 40 CFR Part 87. The comment period closed on October 24, 1983. A number of comments were received and they are discussed below along with the discussion of the amendment.

## DISCUSSION OF THE AMENDMENT

*Overview*

When the EPA originally issued 40 CFR Part 87, in 1973, it was recognized that some portion of the standards could be implemented in a very short time period while other portions would require a much longer time period for development and testing. Accordingly, the FAA proceeded to promulgate enforcement regulations for the near term requirements in the form of a Special Federal Aviation Regulation, SFAR No. 27. Since that time, the EPA has recognized that some of the longer term requirements were either unneeded or practically unattainable. Those longer term requirements, originally scheduled to become effective in 1978, have been delayed until January 1, 1984, and have been extensively revised. Revised regulation 40 CFR Part 87 now contains all of the standards and the last of the effectivity dates for implementation. Pursuant to section 232 of the Clean Air Act, as amended, the FAA is required to promulgate enforcement regulations for all of the standards in 40 CFR Part 87. Therefore, this amendment is consistent with the EPA revisions to 40 CFR Part 87 and FAA's statutory duty under the Clean Air Act.

*Deletion of specific reference to previous findings of compliance*

SFAR 27 contained specific references to manufacturer's service bulletins containing instructions for modifications which, if incorporated in engines, constituted satisfactory evidence of compliance with 40 CFR Part 87. The references also included engine model designations which had previously been found to comply with the smoke standards of 40 CFR Part 87. That list had become long and required frequent updating as new engine models were found to demonstrate compliance with the standards. As revised, 40 CFR Part 87 contains new and in some cases more stringent standards for all turbojet and turboprop engines manufactured after January 1, 1984. The listing of all of these model designations would become cumbersome and impractical requiring frequent revision of the Federal Aviation Regulations. The FAA now deletes those specific references and instead, SFAR 27–5 states that "All methods of demonstrating compliance and all model designations previously having been found acceptable to the Administrator of the FAA shall be deemed to continue to be an acceptable demonstration of compliance with the specific standards for which they were approved."

*Practical interpretation of the requirement for total compliance*

The standards established by the EPA are applicable to each engine of the types and upon the dates specified in 40 CFR Part 87. Taken literally this would require that every engine to which the standards apply must demonstrate compliance with the standards. This construction would require testing each and every engine manufactured on or after January 1, 1984, unless specifically exempted. The EPA recognized in the preamble to 40 CFR Part 87, and specifically in § 87.89, that exhaust emission compliance testing of every engine would be excessively costly and accepted the need to substitute a preproduction certification program in place of extensive testing of all newly produced and in service

engines. Section 87.89 has delegated the definition of this substitute certification program to the FAA with the proviso that the FAA establish the level of confidence required, provide a practical interpretation of the requirement for total compliance, establish a testing program to ensure compliance, and obtain the approval of the Administrator of the EPA prior to January 1, 1984. Consistent with EPA's position regarding compliance verification (47 FR 58469), the FAA understands that this compliance verification policy is applicable to all of the standards in 40 CFR Part 87. It should be clearly understood that any substitute certification program must have the concurrence of the Administrator of the EPA.

In developing the United States position on the International Civil Aviation Organization (ICAO) Standards and Recommended Practices for Aircraft Engine Emissions, the FAA consulted extensively with the EPA on acceptable practical interpretations of a requirement for total compliance and a testing program to ensure compliance. At that time the EPA indicated that the minimum acceptable levels would be 90% confidence that 95% of the engines would meet the gaseous emission standards and a 90% confidence that every engine would meet the smoke standards. ICAO adopted such a compliance procedure based upon a composite analysis of historic engine to engine variabilities. Since the EPA has stressed the desirability of maintaining commonality with ICAO, the FAA adopts the compliance procedure defined in Appendix 6 to ICAO Annex 16 Volume II—Aircraft Engine Emissions, dated February 18, 1982. The Administrator of the EPA has concurred in FAA adoption of the ICAO compliance procedure. The FAA continues to solicit recommendations for equivalent procedures and will give each recommendation full consideration if it is accompanied by substantive supporting data. Should an equivalent or better procedure be received, the FAA will seek EPA concurrence with that as an alternate compliance procedure. The FAA cannot, however, adopt any proposed compliance procedure unless it has the concurrence of the Administrator of the EPA.

*Comments in response to Notice 83-12*

A total of seven written and three oral comments were received in response to Notice 83-12. The majority of those comments concerned the alleged redundancy of the regulation, the marking and identification requirements, and the exemption and reporting procedures. At least two comments indicated some continuing confusion over the definition of the term "date of manufacture". All of the comments have been reviewed and, as discussed below, the proposed rule has been revised to reflect meritorious comments and suggestions within the scope of Notice 83-12.

*Redundancy of the proposed compliance requirements*

One commenter noted that the proposed rule imposes compliance requirements upon the engine manufacturer, installers of engines, aircraft manufacturers, and airplane operators. The commenter felt that compliance need only be the responsibility of the engine manufacturer. From a legal viewpoint, the Clean Air Act requires that the regulations "shall include provisions making such standards applicable in the issuance, amendment, modification, suspension, or revocation of *any* certificate authorized by the Federal Aviation Act or the Department of Transportation Act." (42 USC 7572(a), *emphasis added*). From a practical and legal viewpoint, the engine manufacturer can only maintain control over the engines while they are in his possession. Yet, situations may arise where compliance may subsequently be required. For example, an engine originally manufactured and sold for export may be exempt from the standards but that same engine may not be exempt if it is resold for use in the United States as a civil aircraft engine. In that event, it would no longer be the manufacturer's responsibility to ensure compliance but rather the operator or the new owner. Similarly, an engine originally sold by a manufacturer for use in general aviation is not subject to the unburned hydrocarbon standard. However, that standard is applicable if the rated output exceeds 26.7 kilonewtons and the engine is installed and operated in the U.S. by an air carrier or a

commercial operator. For these and other reasons, it is necessary to impose compliance requirements upon airplane operators, mechanics, and aircraft manufacturers, as well as the engine manufacturer. It also explains the justification for requiring that the engine exhaust emission compliance status be clearly and permanently identified in a prominent location on each powerplant.

*Exemption Requirements*

As stated in Notice 83–12, the EPA has retained primary rulemaking authority over the emissions standards, and the test procedures for control of those standards, in all aircraft. However, under the revised Part 87, responsibility for initial evaluation and processing of requests for certain specified exemptions has been transferred to the Secretary of the Department of Transportation (DOT). Several exemptions listed at 40 CFR § 87.7 clearly fall within the discretion of the FAA and EPA and therefore can only be considered by utilizing the procedural requirements of 14 CFR Part 11. These exemptions include 40 CFR § 87.7(a)(4), § 87.7(c), and § 87.7(d). However, several commenters have asked if it was the FAA's intent to require a formal exemption request for the remainder of the exemptions listed under 40 CFR § 87.7. To make the requirements clear, each of the remaining exemptions will be discussed in turn.

40 CFR § 87.7(a)(1) establishes an exemption for engines installed on an aircraft intended for export. The FAA has an obligation to ensure that exported engines not in compliance with the emission requirements are not operated in the United States. With this objective in mind, the FAA has determined that the marking and recording requirements discussed below, together with the existing Part 21, Subpart L requirements for Export Airworthiness Approvals, will ensure that exported engines cannot be returned for use in the United States without emission modification to bring them into compliance with SFAR 27. Accordingly, the final rule has been amended to require that any engine manufactured under the provisions of 40 CFR § 87.7(a)(1) for export on or after January 1, 1984, must have marked upon the engine manufacturer's identification plate (I.D. plate) the designator NON-US. In addition, the permanent powerplant record (engine logbook or equivalent document) must note that the exempt engine is not suitable for operation within the United States. Finally, when the exempt engine is installed in an aircraft, the aircraft's logbook must note that the aircraft "may not be operated within the United States." This notation may be removed if the engine is later modified to comply with 40 CFR Part 87, or becomes specifically exempted from the applicable emission requirements. These changes are necessary to avoid requiring engine manufacturers to obtain a formal exemption or report the serial number of engines intended for export. The later requirement would be duplicative and unnecessary in light of current regulation and policy.

40 CFR § 87.7(a)(2) permits non complying engines to be flown for short durations to a base where maintenance can be performed, to a point of storage, of for the purpose of returning an aircraft to service. Since § 87.7(a)(2) in effect establishes an applicability criteria for Part 87, the FAA does not feel that the procedural requirements of 14 CFR Part 11 must be followed in order to legally conduct this type of operation. Instead of requiring an operator to "petition" for a nondiscretionary exemption, the FAA recognizes a need for prior notification of intent to conduct such operations. Therefore, though the procedural requirements of 14 CFR Part 11 need not be followed, prior FAA authorization is required. Since the FAA views this type of operation as analogous to those requiring a special flight permit, to obtain such authorization, the operator should follow the procedures outlines in 14 CFR § 21.199.

40 CFR § 87.7(a)(3) allows for flights of short duration at infrequent intervals if conducted as part of an official visit by representatives of foreign governments. After careful consideration, the FAA has determined that the infrequency of these types of operations does not warrant prior FAA approval of any sort. Therefore, no additional FAA approval is necessary if the flight is indeed of limited duration and is conducted exclusively for the purpose of an official foreign visit.

40 CFR § 87.7(b) provides for an exemption for engines operated in the United States when certain low production limits are maintained. The FAA has an obligation to ensure that the low production limits of 40 CFR § 87.7(b) are not exceeded. The only adequate method to ensure compliance with the low production limits is to require a formal exemption request. Consequently, each time a manufacturer intends to use or sell a non complying engine in the United States, a request for exemption utilizing the procedural requirements of 14 CFR Part 11 must be made. To implement this procedure, a manufacturer should request an exemption for any group of 20 or less engines that a manufacturer intends to produce under a given type certificate during a given calendar year. Assuming that there are no irregularities, the FAA will grant the exemption on condition that the manufacturer advise the FAA of that engine's serial number and type certificate number on or before the last day of the month following the date of its manufacture. In addition, as will be explained later, that engine must be labelled as EXEMPT at FAA Headquarters which will contain the serial number of the engine as part of each exemption. At the same time, the manufacturer must note in the permanent powerplant record that the engine is not required to meet the emissions standards of 40 CFR Part 87 by reason of the low production exemption. In a related issue, several commenters have stated that it is impossible to project the market for specified engines in advance of the manufacture date and therefore it is unreasonable to require manufacturers to advise the FAA of exempted engines "on or before the date of manufacture" as proposed in Section 9(c). The FAA agrees with these commenters and has revised the firal rule to provide relief in several ways. First, as adopted, the final rule requires that a manufacturer advise the FAA of the serial numbers of only those engines which have been granted a specific exemption pursuant to 14 CFR Part 11. In addition, the manufacturer may wait until the last day of the month following the date of the engine's manufacture to provide the FAA with this information.

*Date of Manufacture*

Although the identical definition has been part of SFAR-27 for some time, several comments were received which indicate that the term "Date of Manufacture", was misunderstood or subject to misinterpretation. One commenter expressed a desire to interpret "date of manufacture" as the date of installation on an airplane or even the date of sale of that aircraft. A second commenter expressed concern that engines in transport from the engine manufacturer to an airframe manufacturer (or in inventory at a general aviation facility) on January 1, 1984, would be subject to the revised 40 CFR Part 87 requirements. Both interpretations are too broad. The meaning of the term "Date of Manufacture" was extensively discussed in the preamble to SFAR 27-3 adopted December 21, 1977, and remains unchanged. However, to further clarify, the date on which an engine is "manufactured" is the date on which the engine is originally approved by the FAA. An engine is considered to be approved by the FAA when it is produced under an FAA Production Certificate issued under the provisions of 14 CFR Part 21, Subpart G, or under a Type Certificate Only issued under the provisions of 14 CFR Part 21, Subpart F. In addition, the engine must have been determined by the manufacturer to be in conformity with its type design and in a condition for safe operation in accordance with 14 CFR § 21.165 or § 21.130 as appropriate. Evidence of this approval is the manufacturer's fire proof identification (I.D.) plate that must be affixed to the engine in accordance with 14 CFR § 45.11 and § 45.13. In the case of a foreign manufactured engine, the "date of manufacture" is the date when the certificating authority of the country of manufacture issues a certifying statement to the effect that the engine conforms to its U.S. type design and is in a condition for safe operation.

Notice 83-12 proposed that the date of manufacture be included on the I.D. plate as part of the engine identification data. Several commenters have alleged that this requirement is redundant since the same information must be included as part of the permanent powerplant record that accompanies the engine, and because the date of manufacture is directly traceable to the engine serial number. Obviously, knowledge of the

date of manufacture is essential to the FAA inspector who must determine whether the revised requirements of 40 CFR Part 87 are applicable to the engine. For an engine with a long maintenance history, specific items of information may be difficult and time consuming to locate. In addition, since there is currently no requirement that serial numbers be reported to the FAA, no master list exists for an inspector to consult. In any event, an inspector should not be required to examine additional records to determine if a particular engine must comply with revised 40 CFR Part 87. It is therefore, the FAA's position that the only efficient method of determining whether a particular engine falls within the requirements of 40 CFR Part 87 is to have the date of manufacture indicated on the I.D. plate of each particular engine. The FAA also wishes to make clear that only those engines manufactured on or after January 1, 1984, covered by the applicable provisions of 40 CFR Part 87 will be required to include the date of manufacture as part of the identification data of the engine I.D. plate. This can be done simply by indicating the month and year in a clear and concise fashion. As an example, the FAA suggests a designation such as "01-84" be marked on the I.D. plate to indicate a manufacturing date of January, 1984, as a means of complying with the "date of manufacture" requirement. The FAA is aware of several manufacturers who already routinely include this information on the engine I.D. plate. Therefore, it should not be unduly burdensome to now require this information.

Another comment regarding the date of manufacture requirement was that such a date may be confusing and misleading to potential buyers of used engines. The commenter asserted that, as an example, a 15 year old engine may have had substantial service and parts replacement by the year 1999, leaving only the I.D. plate of 1984 vintage. However, this same commenter admitted that the date of manufacture, as well as data on major maintenance actions, parts replacement, and service bulletin compliance. is already included in the engine logbook which is required for each engine. Therefore, potential buyers of the engine should not be confused as to the engine's serviceability. Rather, the date of manufacture should help to clarify what maintenance and parts are required to keep in compliance with SFAR-27.

*Identification Data and Recording Requirements*

In addition to the date of manufacture, proposed Section 20 of Notice 83-12 requires that the I.D. plate show a designation that indicates the status of compliance with the applicable provisions of 40 CFR Part 87. Several commenters have asked what type of indication the FAA will require. They are concerned that some I.D. plates may have to be redesigned, thus adding to the cost of production, if additional I.D. plate information data is required. After careful consideration of this problem, the FAA has devised the following 6 character marking scheme which should cover all possible marking problems that may be encountered and at the same time minimize the use of space on plates already being utilized. For engines that, in all respects, comply with the requirements of SFAR-27 and 40 CFR Part 87, the I.D. plate must contain the designation COMPLY. Any engines subject to SFAR-27, but which has been granted an exemption under any provision found in 40 CFR § 87.7(a) (4), § 87.7(b), (c) or (d), must contain the designator EXEMPT on the I.D. plate. Finally, any engine which is exempt from the requirements of SFAR-27 by reason of it being manufactured for use outside the United States [40 CFR § 87.7(a) (1)], the I.D. plate must be marked with the designator NON-US. These designations have been approved by the FAA and have been made part of Section 20 in the final rule. Other designation codes are possible for use. However, in order to retain as uniform a marking scheme as possible, only those designators approved by the Administrator of the FAA may be utilized.

Several additional recording requirements have also been included in Section 20 of the final rule. Section 20(c) requires that, for any engine which has been granted an exemption by reason of any provision found in 40 CFR § 87.7(a) (1), (a) (4), (b), (c), or (d), an indication of the exemption and the reason for the grant must be inserted in the permanent powerplant record (engine logbook or equivalent document), that accompanies the engine,

at the time of manufacture. For example, if an engine has been granted an exemption by reason of it falling within the low production limits of 40 CFR § 87.7(b), the indication should state "EXEMPT for low production" or some similar notation. If an engine has been granted an exemption by reason of 40 CFR § 87.7(a) (1), the indication should read "NON-US, this engine does not comply with U.S. emissions requirements and must not be operated within the U.S."

Section 20(d) requires that, for engines rated in excess of 26.7 kilonewtons (Kn) that comply only with the required smoke number, the notation "May not be used as a commercial aircraft engine", as that term is defined in the SFAR 27-5, must be inserted in the permanent powerplant record at the time of engine manufacture. However, the I.D. plate designator COMPLY would be appropriate for these engines.

Finally, as previously mentioned, for aircraft assembled with engines exempt as a result of the export provision of 40 CFR § 87.7(a) (1), the notation "The aircraft may not be operated within the United States" must be inserted in the aircraft logbook at the time of engine installation. Other notations may be acceptable if prior FAA approval is obtained.

*Stay of Emission Requirements for Class TF Engines*

Subsequent to the publication of final rule 40 CFR Part 87, the General Aviation Manufacturers Association (GAMA) petitioned the Environmental Protection Agency for reconsideration of the smoke standard as applied to Class TF engines rated at 26.7 kn or below. Pursuant to an agreement between the parties, EPA has stayed the effectiveness of the smoke standard as applied to Class TF engines (48 FR 46481) October 12, 1983). The FAA has no way of knowing when or if EPA will lift this stay after reconsideration of the GAMA petition. Therefore, consistent with Section 3(b) of SFAR 27-5, the FAA will not enforce any additional requirements set forth in the final rule with respect to these engines while the stay is in effect. However, compliance with those requirements currently in effect will continue to be required. In addition, should EPA decide to reimpose any requirement previously imposed in 40 CFR Part 87, it will immediately become part of this rule.

*Regulatory Impact Analysis*

Prior to its enactment, the EPA determined that 40 CFR Part 87 would not constitute a major rule as defined by Executive Order 12291 (Order) and that it did not involve any significant increased costs or adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S. enterprises to compete with those of other countries when compared to the present regulations. The information base, including the economic analyses on which this determination was made, is collected in Public Docket No. OMSAPC-78-1 at the Environmental Protection Agency, Central Docket Section, West Tower Lobby, Gallery I, 401 M Street, S.W., Washington, D.C. 20460. In addition, several of the final EPA reports concerning this subject can be found as part of the docket for this proposed rule. As the purpose of the proposed amendments to SFAR 27 is to promulgate rules for the enforcement of revised 40 CFR Part 87, as required by statute, the FAA has made a determination that an additional analysis would, at this point, be duplicate and inappropriate. As a result, no new economic analysis will be conducted with regard to revised SFAR 27.

*Impact on Small Entities*

Because of the limited classes of engines to which 40 CFR Part 87 applies, the EPA earlier determined that enactment of that regulation would not have a significant economic impact on a substantial number of small entities (as defined by the Small Business Act). Therefore, no Regulatory Flexibility Analysis was prepared. Interested persons may review the information on which this determination was made at the locations previously mentioned. As the EPA is in a much better position to make a determination in that regard, the FAA adopts that finding.

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*Environmental Analysis*

Pursuant to Department of Transportation, "Policies and Procedures for Considering Environmental Impacts" (FAA Order 1050.1C, Appendix 7, paragraph 5a.; 45 FR 2279, 2280, January 10, 1980), the FAA is categorically excluded from providing an environmental analysis with regard to the proposed amendments to SFAR 27 because it is mandated by law to issue regulations to ensure compliance with the EPA aircraft emissions standards and the EPA has performed all required environmental analyses prior to the issuance of those standards.

*OMB Review*

This action was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

*Good Cause Justification*

Section 553 of the Administrative Procedure Act provides that the publication of a substantive rule shall be made not less than 30 days before its effective date except as otherwise provided by the agency for good cause found and published with the final rule. The EPA published the revised requirement of 40 CFR Part 87 on December 30, 1982. At that time, EPA announced a compliance date for the revised requirements of January 1, 1984. As previously stated, the FAA has a duty to issue regulations that ensure compliance with all aircraft emission standards. The amendments to SFAR 27 were published in notice form and the comments relating to that notice have been addressed. Inasmuch as the amendments to SFAR 27 are mainly procedural and the compliance date for CFR Part 87 was announced 13 months in advance, the FAA feels that there is good cause to dispense with the full 30-day publication period before the effectivity of SFAR 27-5.

*Paperwork Reduction Act*

Information collection requirements contained in this regulation (sections 9d, 12 and 20) have been approved by the Office of Management and Budget under the provisions of the Paperwork Reduction Act of 1980 (P.L. 96-511) and have been assigned OMB control number 2120-0508.

Accordingly, SFAR 27 of Title 14, Parts 11, 21, 43, 45, and 91 of the Code of Federal Regulations is revised and approved by the Office of Management and Budget under OMB control number 2120-0508, and § 11.101(b) of Subpart F is amended effective January 1, 1984.

NOTE: For reasons discussed earlier in the preamble: the FAA has determined that this document; (1) involves a proposed regulation which is not major under Executive Order 12291; (2) is not a significant rule pursuant to the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) it is certified under the criteria of the Regulatory Flexibility Act that this rule will not have a significant economic impact on a substantial number of small entities.

(Sec. 232, Clean Air Act, as amended Dec. 31, 1970, Pub. L. 91-604 (42 U.S.C. 1857f-10) as delegated (36 FR 3733); 40 CFR Part 87; secs. 307(c), 313(a), 601 and 603, Federal Aviation Act of 1958 (49 U.S.C. 1348(c), 1354(a), 1421, and 1423); 49 U.S.C. 106(g) (Revised, Pub. L. 97-449, January 12, 1983)).

## Special Federal Aviation Regulation 27

## Fuel Venting and Exhaust Emission Requirements For Turbine Engine Powered Airplanes

**[Sec. 1 General requirements.**

(a) This SFAR provides for the approval or acceptance by the Administrator of the FAA for the Administrator of the EPA of testing and sampling methods, analytical techniques, and related equipment not identical to those specified in this Part. Before either approves or accepts any such alternate, equivalent, or otherwise nonidentical procedures or equipment, the Administrator of the FAA or the Administrator of the EPA shall consult with the other in determining whether or not the action requires rulemaking under sections 231 and 232 of the Clean Air Act, as amended, consistent with the responsibilities of the Administrator of the EPA and the Secretary of Transportation under sections 231 and 232 of the Act. (42 U.S.C. 7571, 7572).

(b) U.S. airplanes. This SFAR applies to civil airplanes that are powered by aircraft gas turbine engines of the classes specified herein and that have U.S. Standard Airworthiness Certificates.

(c) Foreign airplanes. Pursuant to the definition of "aircraft" in 40 CFR 87.1(a), this SFAR applies to civil airplanes that are powered by aircraft gas turbine engines of the classes specified herein and that have foreign airworthiness certificates that are equivalent to U.S. Standard Airworthiness Certificates. This includes only those foreign civil airplanes that, if registered in the United States, would be required by applicable Federal Aviation Regulations to have a U.S. standard airworthiness certificate in order to conduct the operations intended for the airplane.

Pursuant to 40 CFR 87.3, this SFAR does not apply where inconsistent with an obligation assumed by the United States to a foreign country in a treaty, convention, or agreement.

**Sec. 3 Relation to 40 CFR Part 87**

(a) Reference in this regulation to 40 CFR Part 87 refers to Title 40 of the Code of Federal Regulations, Chapter I—Environmental Protection Agency, Part 87, Control of Air Pollution from Aircraft and Aircraft Engines (40 CFR Part 87), originally issued on July 6, 1973, and published in the Federal Register (38 FR 19088) on July 17, 1973, as revised effective January 31, 1983 (47 FR 58462), as amended effective January 20, 1983 (48 FR 2716).

(b) This SFAR contains regulations to ensure compliance with certain standards in Environmental Protection Agency (EPA), 40 CFR Part 87. If EPA takes any action, including the issuance of an exemption or issuance of a revised or alternate procedure, test method, or other regulation, the effect of which is to relax, or delay the effective date of any provision of 40 CFR Part 87 that is made applicable to an aircraft under this SFAR, the new relaxed EPA requirement, upon its effective date, is incorporated into this SFAR and supersedes the provisions of this SFAR that are based on the provisions of 40 CFR Part 87 that were relaxed by such action.

(c) Unless otherwise stated, all terminology and abbreviations in this SFAR that are defined in 40 CFR Part 87 have the meaning specified in that Part, and]

[all terms in 40 CFR Part 87 that are not defined in that Part but that are used in this SFAR have the meaning given them in the Clean Air Act, as amended by 42 USC § 7401.

(d) All interpretations of 40 CFR Part 87 that are rendered by EPA also apply to this SFAR.

(e) Consistent with subsection (c) of this section, the following definitions apply:

(1) "Administrator of the FAA" means the Administrator of the Federal Aviation Administration or any other officer or employee of the Federal Aviation Administration to whom the authority involved may be delegated.

(2) "Administrator of the EPA" means the Administrator of the Environmental Protection Agency and any other officer or employee of the Environmental Protection Agency to whom the authority involved may be delegated.

**Sec. 5 Additional EPA approvals and procedures**

(a) If EPA, under 40 CFR 87.3(a) approves or accepts any testing and sampling procedures or methods, analytical techniques, and related equipment not identical to those specified in EPA Part 87, this SFAR requires a showing that such alternate, equivalent, or otherwise nonidentical procedures have been complied with, and that such alternate equipment was used to show compliance, unless the applicant elects to comply fully with 40 CFR Part 87.

(b) If the Administrator of the EPA after consultation with the Administrator of the FAA, prescribes special test procedures for any aircraft or aircraft engine that is not susceptible to satisfactory testing by the procedures in 40 CFR Part 87, this SFAR requires a showing that those special test procedures have been complied with.

(c) Wherever 40 CFR Part 87 requires agreement, acceptance, or approval by the Administrator of EPA, this SFAR requires a showing that such agreement or approval has been obtained.

**Sec. 7 Relation to State and local regulations**

(a) Pursuant to 42 U.S.C. § 7573, no state or political subdivision thereof may adopt or attempt to enforce any standard respecting emissions of any air pollutant from any aircraft or engine thereof unless that standard is identical to a standard made applicable to the aircraft by the terms of this SFAR.

(b) If EPA, by regulation or exemption, relaxes a provision of 40 CFR Part 87, no state or political subdivision thereof may adopt or attempt to enforce the terms of this SFAR that are superseded by the relaxed requirement.

(c) Consistent with § 87.6 of 40 CFR Part 87, if the Administrator of the FAA determines that any emission control regulation cannot be safely applied to an aircraft, that provision may not be adopted or enforced against that aircraft by a state or political subdivision thereof, even if it is in this SFAR.

(d) If any provision of this SFAR is rendered inapplicable to a foreign aircraft as provided in 40 CFR 87.3(c) and section 1(b) of this SFAR, that]

[provision may not be adopted or enforced against that foreign aircraft by a state or political subdivision thereof.

**Sec. 9 Petitions for rulemaking and exemption**

(a) Notwithstanding Part 11 of the Federal Aviation Regulations (14 CFR Part 11), all petitions for rulemaking involving either the substance of an emission standard prescribed by EPA that is incorporated in this SFAR, or the compliance date for such standard or procedure, must be submitted to EPA. Information copies of such petitions are invited by the FAA.

(b) Petitions for rulemaking or exemption involving provisions of this SFAR that do not affect the substance or the compliance date of an emission standard or test procedure that is prescribed by EPA, and petitions for exemptions under the provisions for which the EPA has specifically granted exemption authority to the Administrator of the FAA in 40 CFR 87.7(a)(4), (b), (c), and (d), are subject to Part 11 of the Federal Aviation Regulations (14 CFR Part 11).

(c) Any engine for which a petition for exemption has been granted pursuant to subsection (b) of this section must be reported to the FAA by serial number and type certificate number on or before the last day of the month following the date of manufacture as defined in section 12 of this SFAR.

(d) Notwithstanding any other requirement of 14 CFR § 45.13, an aircraft engine specifically exempted from the applicable requirements of this SFAR pursuant to subsection (b) of this section must have the designator EXEMPT, or an equivalent designator approved by the Administrator of the FAA, inscribed as part of the identification data of the engine.

(e) Exemptions granted pursuant to any provision of 40 CFR 87 or subsection (b) of this section are not transferrable to any other engine.

(f) Exemptions requested pursuant to the provisions of 40 CFR § 87.7(a)(2) must comply with the procedural requirements set forth in 14 CFR § 21.199.

**Sec. 10 Incorporation by reference**

(a) General. This SFAR prescribes certain standards and procedures which are not set forth in full text in the rule. On November 22, 1983, those standards and procedures were approved by the Office of the Federal Register for incorporation by reference pursuant to 5 U.S.C. 552(a) and 1 CFR Part 51.

(b) Changes to incorporated matter. Incorporated matter which is subject to subsequent change is incorporated by reference according to the specific reference and to the identification statement. Adoption of any subsequent change in incorporated matter that impacts compliance with standards and procedures is made under 14 CFR Part 11 and 1 CFR Part 51.

(c) Identification statement. The complete title or description which identifies each published matter incorporated by reference in this SFAR is as follows:

(1) ICAO Annex 16—Environmental Protection, Volume II—Aircraft Engine Emissions, Appendices 2 through 6 dated 18 February 1982. This document can be obtained from the International Civil Aviation Organization, P.O. Box 400, Succursale: Place de L'Aviation Internationale, 1000 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2R2 at $3.00 per copy.

(d) Availability for inspection. A copy of each publication incorporated by reference in this SFAR is available for public inspection at the following locations:]

[(1) FAA Office of the Chief Counsel, Rules Docket, Room 916, Federal Aviation Administration Headquarters Building, 800 Independence Avenue, S.W., Washington, D.C. 20591

(2) Department of Transportation, Branch Library, Room 930, Federal Aviation Administration Headquarters Building, 800 Independence Avenue, S.W., Washington, D.C. 20591

(3) The respective offices of the Federal Aviation Administration as follows:

(i) New England Regional Office, 12 New England Executive Park, Burlington, Massachusetts 01803.

(ii) New York Aircraft Certification Office, 181 South Franklin Avenue, Room 202, Valley Stream, New York 11581.

(iii) Atlanta Aircraft Certification Office, 1075 Innerloop Road, College Park, Georgia 30337.

(iv) Chicago Aircraft Certification Office, 2300 East Devon, Des Plaines, Illinois 60018.

(v) Central Regional Office, 601 East Twelfth Street, Kansas City, Missouri 64106.

(vi) Southwest Regional Office, 4400 Blue Mound Road, Fort Worth, Texas 76101.

(vii) Denver Aircraft Certification Field Office, 10455 East 25th Avenue, Aurora, Colorado 80010.

(viii) Northwest Regional Office, 17900 Pacific Highway South, Seattle, Washington 98168.

(ix) Western Aircraft Certification Field Office, 15000 Aviation Boulevard, Hawthorne, California (Mail Address: P.O. Box 92007 Worldway Postal Center, Los Angeles, California 90009).

(x) Anchorage Aircraft Certification Field Office, 701 C. Street, Anchorage, Alaska 99513.

(xi) Honolulu Aircraft Certification Field Office, Prince Kuhio Building, 300 Ala Moana Boulevard, Room 7108, Honolulu, Hawaii (Mail Address: P.O. Box 50246, Honolulu, Hawaii 96850).

(xii) Los Angeles Aircraft Certification Office, 4334 Donald Douglas Drive, Long Beach, California 90808.

(xiii) Brussels Aircraft Certification Staff, 15 Rue de la Loi, B-1040 Brussels, Belgium.

(xiv) FAA Representative, Office of U.S. Consulate General, Avenida Presidente Wilson, 147 Rio De Janeiro, Brazil.

(4) The Office of the Federal Register, Room 8401, 1100 "L" Street, NW., Washington, D.C.

**Sec. 11 Compliance with airworthiness regulations**

It must be shown that the airplane meets the airworthiness regulations constituting the type certification basis of the airplane under all conditions in which compliance with this SFAR is shown.

**Sec. 12 Date of manufacture**

As used in this SFAR, unless 40 CFR Part 87 of the Clean Air Act, as amended, requires otherwise, the date on which an aircraft engine is]

[“manufactured” is the date on which that individual engine is originally approved by the FAA, or by a foreign country of manufacture, for installation on an aircraft. Notwithstanding any other requirements of 14 CFR § 45.13, beginning January 1, 1984, the date of manufacture (month and year) must be included as part of the identification data of engines manufactured on or after that date.

**Sec. 13 Engine classes and test configuration**

(a) Consistent with section 3(c) of this SFAR, the following definitions in 40 CFR 87.1 apply:

(1) “Aircraft engine” means a propulsion engine which is installed in or which is manufactured for installation in an aircraft.

(2) “Class TP” means all aircraft turboprop engines.

(3) “Class TF” means all turbofan or turbojet aircraft engines except engines of Class T3, T8, and TSS.

(4) “Class T3” means all aircraft gas turbine engines of the JT3D model family.

(5) “Class T8” means all aircraft gas turbine engines of the JT8D model family.

(6) “Class TSS” means all aircraft gas turbine engines employed for propulsion of aircraft designed to operate at supersonic flight speeds.

(7) “Commercial aircraft engine” means any aircraft engine used or intended for use by an “air carrier” (including those engaged in “intrastate air transportation”) or a “commercial operator” (including those engaged in “intrastate air transportation”) as these terms are defined in the Federal Aviation Act and the Federal Aviation Regulations.

(8) “Commercial aircraft gas turbine engine” means a turboprop, turbofan, or turbojet commercial aircraft engine.

(b) As prescribed in 40 CFR Part 87, the complete engine as configured for final acceptance testing, including all accessories that might reasonably be expected to influence emissions to the atmosphere excluding auxiliary gearbox-mounted components required to drive aircraft systems and service air bleed, must be functional for all testing under this SFAR.

**Sec. 14 Compliance**

(a) Compliance with the fuel venting emissions requirements of this SFAR that apply beginning on February 1, 1974, and beginning January 1, 1975, may be shown by any means of compliance, applied to the airframe of the engine, that prevents the intentional discharge of fuel from fuel nozzle manifolds after the engines are shut down. Acceptable means of compliance include the following:

(1) Incorporation of an FAA approved system that recirculates the fuel back into the fuel system.

(2) Capping or securing the pressurization and drain valve.

(3) Manually draining the fuel from a holding tank into a container.

(b) Continued compliance with the exhaust emissions requirements of this SFAR that became effective on February 1, 1974, January 1, 1975, January 1, 1978, and January 1, 1984, for engines for which the type design has been shown to meet those requirements, is demonstrated if the engine is maintained in accordance with applicable maintenance requirements for 14 CFR Chapter I.]

[methods of demonstrating compliance and all model designations previously having been found acceptable to the Administrator of the FAA shall be deemed to continue to be an acceptable demonstration of compliance with the specific standards for which they were approved.

(c) Each applicant must allow the Administrator of the FAA to make, or witness, any test necessary to determine compliance with the applicable provisions of this SFAR.

(d) An acceptable alternative to testing every engine is described in Appendix 6 to Volume II—Aircraft Engine Emissions, of ICAO Annex 16—Environmental Protection, 18 February 1982, incorporated herein by reference as indicated in Section 10. Other methods of demonstrating compliance may be approved by the Administrator of the FAA with the concurrence of the Administrator of the EPA.

**Sec. 15 Type certificates**

(a) Notwithstanding Part 21 of the Federal Aviation Regulations, and irrespective of the date of application, no type certificate is issued, on and after the dates specified in subparagraphs (a) (1) through (a) (5) of this section, for the airplanes specified therein, unless:

(1) For airplanes powered by engines of Class TF, Class TP, Class T3, Class T8, or Class TSS, the airframe or engine complies with the fuel venting emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974, and January 1, 1975;

(2) For airplanes powered by engines of Class T8, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974;

(3) For airplanes powered by engines of Class TF that have a rated power of 29,000 pounds thrust or greater, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1976;

(4) For airplanes powered by engines of Class T3, each engine manufactured on or after January 1, 1978, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1978; and

(5) For airplanes powered by engines of Class TP, Class TF, Class T3, Class T8, and Class TSS—each engine manufactured on or after January 1, 1984, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that apply beginning January 1, 1984.

(b) Notwithstanding Part 21 of the Federal Aviation Regulations, and irrespective of the date of application, no type certificate is issued, on and after the dates specified in paragraphs (a) (2), (a) (3) and (a) (4) of this section, for an engine specified therein unless the engine complies with that subparagraph.

(c) Notwithstanding Part 21 of the Federal Aviation Regulations and irrespective of the date of application, no type certificate is issued on or after January 1, 1984, for any Class TP, Class TF, Class T3, Class T8, or Class TSS engine unless the engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that apply beginning January 1, 1984.]

**[Sec. 17 Supplemental or amended type certificates**

(a) Notwithstanding Part 21 of the Federal Aviation Regulations, and irrespective of the date of application, no supplemental or amended type certificate is issued on and after the dates specified in paragraphs (a) (1) through (a) (5) of this section, for the airplanes specified therein, unless:

(1) For airplanes powered by engines of Class TF, Class TP, Class T3, Class T8, or Class TSS, the airframe or engine complies with the fuel venting emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974, and January 1, 1975;

(2) For airplanes powered by engines of Class T8, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974;

(3) For airplanes powered by engines of Class TF that have a rated power of 29,000 pounds thrust or greater, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1976;

(4) For airplanes powered by engines of Class T3, each engine manufactured on or after January 1, 1978, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1978; and

(5) For airplanes powered by engines of Class TP, Class TF, Class T3, Class T8, and Class TSS—each engine manufactured on or after January 1, 1984, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that apply beginning January 1, 1984.

(b) Notwithstanding Part 21 of the Federal Aviation Regulations, and irrespective of the date of application, no supplemental or amended type certificate is issued, on or after the dates specified in paragraphs (a) (2), (a) (3), and (a) (4) of this section, for an engine specified therein, unless the engine complies with that paragraph.

(c) Notwithstanding Part 21 of the Federal Aviation Regulations and irrespective of the date of application, no supplemental or amended type certificate is issued on or after January 1, 1984, for any Class TP, Class TF, Class T3, Class T8, or Class TSS engine unless the engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that apply beginning January 1, 1984.

**Sec. 19 Engine approvals**

(a) On and after the dates specified in this paragraph, and notwithstanding Part 21 of the Federal Aviation Regulations, no original FAA approval for installation of an engine on aircraft covered by this SFAR (including FAA acceptance of an equivalent original approval issued on or before January 1, 1978, by a foreign country of manufacture) is made by the FAA:

(1) For an engine of Class T8, unless the engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974;

(2) For an engine of Class TF that has a rated power of 29,000 pounds thrust or greater, unless the engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1976;]

[(3) For an engine of Class T3, unless each engine manufactured on or after January 1, 1978, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1978; and

(4) For engines of Class TP, Class TF, Class T3, Class T8, or Class TSS, unless each engine manufactured on or after January 1, 1984, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that apply beginning January 1, 1984.

**Sec. 20 Identification Data and Recording Requirements**

(a) On or after January 1, 1984, notwithstanding 14 CFR Part 45, no original FAA approval for installation of an engine on an airplane (including FAA acceptance of an equivalent original approval issued on or after January 1, 1984, by a foreign country of manufacture) is made by the FAA, for an engine covered by this SFAR unless that engine has secured to it an identification plate displaying the date of manufacture and a designation, approved by the Administrator of the FAA, that indicates compliance with applicable provisions of 40 CFR Part 87. Approved indicators include COMPLY, EXEMPT, and NON-US as appropriate.

(b) On or after January 1, 1984, notwithstanding 14 CFR Part 45, no person may secure an identification plate to any airplane engine covered by this SFAR unless that engine complies with the applicable provisions of this SFAR.

(c) On or after January 1, 1984, notwithstanding any other requirement of 14 CFR Part 43, for any engine granted an exemption pursuant to any applicable provision of 40 CFR § 87.7(a) (1), (a) (4), (b), (c), or (d), an indication of the type of exemption and the reason for the grant must be noted in the permanent powerplant record, that accompanies the engine, at the time of manufacture of the engine.

(d) On or after January 1, 1984, notwithstanding any other requirement of 14 CFR Part 43, for any engine with a rated thrust in excess of 26.7 kilonewtons which does not comply with the hydrocarbon emissions standard of 40 CFR Part 87, the statement "May not be used as a commercial aircraft engine" must be noted in the permanent powerplant record, that accompanies the engine, at the time of manufacture of the engine.

(e) On or after January 1, 1984, notwithstanding any other requirement of 14 CFR Part 43, for any aircraft assembled with an engine that has been granted an exemption pursuant to 40 CFR § 87.7(a) (1), the notation "the aircraft may not be operated within the United States", or an equivalent notation approved by the Administrator of the FAA, must be inserted in the aircraft logbook, or alternate equivalent document, at the time of installation of the engine.

**Sec. 21 Standard airworthiness certificates**

Notwithstanding Part 21 of the Federal Aviation Regulations, and irrespective of the date of application, no standard airworthiness certificate is issued, on and after the dates specified in paragraphs (a) through (e) of this section, for the airplanes specified therein, unless:

(a) For airplanes powered by engines of Class TP, Class TF, Class T3, Class T8, or Class TSS the airframe or engine complies with the fuel venting emissions requirement and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974, and January 1, 1975;]

[(b) For airplanes powered by engines of Class T8, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974;

(c) For airplanes powered by engines of Class TF that have a rated power of 29,000 pounds thrust or greater, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1976;

(d) For airplanes powered by engines of Class T3, each engine manufactured on or after January 1, 1978, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1978; and

(e) For airplanes powered by engines of Class TP, Class TF, Class T3, Class T8, and Class TSS—each engine manufactured on or after January 1, 1984, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that apply beginning January 1, 1984.

**Sec. 25 Operation**

On and after the dates specified in paragraphs (a) through (e) of this section, no person may, within the United States, operate a airplane specified in those paragraphs unless:

(a) For airplanes powered by engines of Class TP, Class TF, Class T3, Class T8, or Class TSS, the airframe or the engine complies with the fuel venting emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974, and January 1, 1975;

(b) For airplanes powered by engines of Class T8, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on February 1, 1974;

(c) For airplanes powered by engines of Class TF that have a rated power of 29,000 pounds thrust or greater, each engine complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1976;

(d) For airplanes powered by engines of Class T3, each engine manufactured on or after January 1, 1978, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that became effective on January 1, 1978; and

(e) For airplanes powered by engines of Class TP, Class TF, Class T3, Class T8, and Class TSS—each engine manufactured on or after January 1, 1984, complies with the exhaust emissions requirements and related test procedures of 40 CFR Part 87 that apply beginning January 1, 1984.]

# Special Federal Aviation Regulation 29-4
# Limited IFR Operations of Rotorcraft

**Adopted: December 28, 1982** **Effective: January 1, 1983**

(Published in 48 FR 631, January 6, 1983)

SUMMARY: This amendment extends the effectivity of Special Federal Aviation Regulation (SFAR) No. 29-3, which allows limited operations under instrument flight rules (IFR) of certain normal and transport category rotorcraft that are limited by their type certificates to operations under visual flight rules (VFR). The extension is necessary to prevent imposing any economic burden upon those operators already authorized, equipped, and qualified to conduct operations under SFAR No. 29, which would occur if SFAR 29-3 were permitted to terminate before Amendment No. 1 of the Rotorcraft Regulatory Review Program is issued and effective.

FOR FURTHER INFORMATION CONTACT: Mike Sacrey or Win Karish; Operations Branch (AFO-820); General Aviation & Commercial Division; Office of Flight Operations; Federal Aviation Administration; 800 Independence Ave., SW.; Washington, D.C. 20591; telephone (202) 426-8194.

SUPPLEMENTARY INFORMATION:

## Background

Under Part 27 or Part 29 of the Federal Aviation Regulations (FAR), a rotorcraft is certificated for VFR operation only, unless it has been shown that the rotorcraft fully complies with all of the airworthiness requirements for instrument flight rules (IFR) operations. Since certain IFR operations can be safely conducted with rotorcraft that do not meet all of the present flight characteristic requirements, SFAR No. 29 was adopted by the Administrator on January 3, 1975 (40 FR 2420; January 13, 1975). SFAR No. 29 allowed the Administrator to issue approvals for such operators, on an interim basis, pending the conclusion of a study to determine whether a "limited" IFR category should be established for these rotorcraft, including flight characteristics and equipment requirements, operating procedures and limitations, flightcrew requirements, and training requirements. The expiration date of SFAR No. 29, as amended by SFAR No. 29-3 (45 FR 71919; October 30, 1980), is December 31, 1982.

The FAA has established a Rotorcraft Regulatory Review Program which will involve a comprehensive review and upgrading of requirements. This program will consider the development of IFR airworthiness standards for rotorcraft certification in Parts 27 and 29 of the FAR. It will not be concluded by the December 31, 1982, termination date of SFAR No. 29-3.

## Discussion

If SFAR No. 29 were to expire before completing the rulemaking action generated by the Rotorcraft Regulatory Review Program, there would be no regulatory basis to allow continued IFR rotorcraft operations, thereby creating an undue burden for those operators of helicopters meeting the criteria specified in SFAR No. 29.

Pending the issuance and effectivity of new standards to be established by Amendment No. 1 of the Rotorcraft Regulatory Review Program, the FAA believes that it is in the public interest to allow continued IFR operations with certain rotorcraft that do not meet all of the present requirements of Parts 21, 27, 29, and 91 of the FAR. With the issuance of SFAR No. 29-4, operators may continue to apply for SFAR 29 approvals until Amendment No. 1 of the Rotorcraft Regulatory Review Program (Amendment No. 1) is effective. After Amendment No. 1 is effective, all applicants for certification of IFR rotorcraft operations will have to comply with the applicable provisions of that amendment. When Amendment No. 1 becomes effective, SFAR No. 29-4 (and approvals

issued under SFAR Nos. 29 through 29–4) will remain effective for operators holding approvals obtained before the effective date of Amendment No. 1. SFAR 29–4 will terminate when all approvals issued under SFAR Nos. 29 through 29–4 are surrendered, revoked, or otherwise terminated.

Need for Immediate Adoption

Since this amendment temporarily extends the effectivity of a rule which permits continued IFR rotorcraft operations by operators equipped and qualified to comply with Special Federal Aviation Regulation No. 29 and therefore imposes no additional burden on any person, I find that notice and public procedure are unnecessary and that good cause exists for making this amendment effective in less than 30 days.

THE AMENDMENT

Accordingly, Special Federal Aviation Regulation No. 29, as amended by Special Federal Aviation Regulation No. 29–3 (14 CFR Parts 21, 27, 29, and 91), is reissued and amended, effective January 1, 1983.

(Sections 313(a), 601(a), and 603 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421(a), and 1423) and section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)))

NOTE: Since this document only extends the effectivity of a current regulation and does not impose a burden on the public or aviation industry, the FAA has determined that this document involves a regulation which is not a major rule under Executive Order 12291, is not a significant rule under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979), and does not warrant preparing a regulatory evaluation because the anticipated impact is minimal. For the same reason, I certify that this amendment will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

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## Special Federal Aviation Regulation 29

## FAA Study of Limited IFR Operations in Rotorcraft

1. Contrary provisions of Parts 21, 27, and 29 of the Federal Aviation Regulations notwithstanding, an operator of a rotorcraft that is not otherwise certificated for IFR operations may conduct an approved limited IFR operation in the rotorcraft when—

(a) FAA approval for the operation has been issued under paragraph 2 of this SFAR;

(b) The operator complies with all conditions and limitations established by this SFAR and the approval; and

(c) A copy of the approval and this SFAR are set forth as a supplement to the Rotorcraft Flight Manual.

2. FAA approval for the operation of a rotorcraft in limited IFR operations may be issued when the following conditions are met:

(a) The operation is approved as part of the FAA study of limited rotorcraft IFR operations.

(b) Specific FAA approval has been obtained for the following:

(i) The rotorcraft (make, model, and serial number).

(ii) The flightcrew.

(iii) The procedures to be followed in the operation of the rotorcraft under IFR and the equipment that must be operable during such operations.

(c) The conditions and limitations necessary for the safe operation of the rotorcraft in limited IFR operations have been established, approved, and incorporated in the operating limitations section of the Rotorcraft Flight Manual.

3. An approval issued under paragraph 2 of this Special Federal Aviation Regulation and the change to this Rotorcraft Flight Manual specified in paragraph 2(c) of this Special Federal Aviation Regulation constitute a supplemental type certificate for each rotorcraft approved under paragraph 2 of this SFAR. The supplemental type certificate will remain in effect until the approval to operate issued under the Special Federal Aviation Regulation is surrendered, revoked, or otherwise terminated.

4. Notwithstanding § 91.23(a)(3) of the Federal Aviation Regulations, a person may operate a rotorcraft in a limited IFR operation approved under paragraph 2(a) of this Special Federal Aviation Regulation with enough fuel to fly, after reaching the alternate airport, for not less than 30 minutes, when that period of time has been approved.

5. Expiration.

(a) New applications for limited IFR rotorcraft operations under SFAR No. 29 may be submitted for approval until, but not including, the effective date of Amendment No. 1 of the Rotorcraft Regulatory Review Program. On and after the effective date of Amendment No. 1 of the Rotorcraft Regulatory Review Program, all applicants for certification of IFR rotorcraft operations must comply with the applicable provisions of the Federal Aviation Regulations.

(b) This Special Federal Aviation Regulation will terminate when all approvals issued under Special Federal Aviation Regulation No. 29 are surrendered, revoked, or otherwise terminated.

# Special Federal Aviation Regulation 41

## Airworthiness Standards: Reciprocating and Turbopropeller-Powered Small Multiengine Airplanes—Increase in Approved Takeoff Weights and Passenger Seating Capacities

**Adopted: September 7, 1979** **Effective: October 17, 1979**

(Published in 44 FR 53723, September 17, 1979)

SUMMARY: This amendment adopts a new Special Federal Aviation Regulation (SFAR) which prescribes additional airworthiness standards applicable to existing propeller driven multiengine small airplanes to allow their type and airworthiness recertification at weights in excess of the limitation of 12,500 pounds maximum certificated takeoff weight, or with an increase in the number of passenger seats, or both. The rules applicable to air taxi and commercial operators (Part 135) are amended to allow the operation of airplanes certificated under the SFAR. In addition, the operating rules (Parts 91 and 135) are amended to require that airplanes certificated under the SFAR at weights in excess of 12,500 pounds meet updated interior material flammability requirements within one year of initial airworthiness certification. These amendments are intended to allow the design capabilities of certain existing small airplanes to be more fully utilized. They are also designed to increase aircraft availability for the commuter market that is burgeoning since enactment of the Airline Deregulation Act of 1978.

FOR FURTHER INFORMATION CONTACT:

Raymond E. Ramakis, Safety Regulations Staff (AVS-24), Federal Aviation Administration, 800 Independence Avenue, S.W. Washington, D.C. 20591 Telephone (202) 755-8716.

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ADOPTION OF THE AMENDMENT

Accordingly, the Federal Aviation Regulations (14 CFR Chapter I) are amended, effective October 17, 1979.

(Secs. 313(a), 601, 603, and 604, Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, and 1424); Sec. 6(c))).

NOTE—The FAA has determined that this document involves a regulation which is not significant under Executive Order 12044, as implemented by DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the final evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by writing to Raymond E. Ramakis, Safety Regulations Staff (AVS-24), Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591.

NOTE: The complete preamble to SFAR 41 is contained in Change 35 in Amendment 91-159.

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## Special Federal Aviation Regulation 41A

## Increase in Approved Takeoff Weights and Passenger Seating Capacities: Correction

**Adopted: April 7, 1980** **Effective: April 14, 1980**

(Published in 45 FR 25046, April 14, 1980)

SUMMARY: This action makes editorial corrections to Special Federal Aviation Regulation (SFAR) 41 adopted on September 7, 1979. The SFAR prescribes additional airworthiness requirements applicable to certain existing multiengine small airplanes to allow an increase in approved takeoff weights and passenger seating capacities.

FOR FURTHER INFORMATION CONTACT:

Eli S. Newberger, Safety Regulations Staff, AVS–24, Federal Aviation Administration, 800 Independence Ave., S.W., Washington, D.C. 20591, Telephone (202) 755–8716.

SUPPLEMENTARY INFORMATION:

This amendment of SFAR 41 (44 FR 53723, September 17, 1979) is editorial in nature to provide an omitted date, change an incorrectly stated date, and delete a regulatory reference listed in error.

As indicated in the preamble, SFAR 41 is applicable to existing propeller-driven multiengine small airplanes. The existing airplanes eligible for amended or supplemental type certificates are those type certificated prior to the effective date of the SFAR; i.e., October 17, 1979. This amendment provides the omitted date in paragraphs 1.(a) and 1.(b).

Paragraph 5.(b)(3) of the SFAR inadvertently cites the certification cutoff date of the given class of airplanes as July 1, 1970. Since this paragraph parallels § 135.169(b)(3), for consistency, the date is corrected to July 19, 1970.

Of the three sections of Appendix A, Part 135, referenced in paragraph 5.(c) of the SFAR, section 19.(b)(3) does not relate to landing requirements and was inadvertently included. Paragraph 5.(c) and the corresponding preamble discussion are amended by deleting the erroneous reference.

This amendment corrects the editorial errors as noted and good cause exists for making the amendment effective upon publication in the FEDERAL REGISTER [April 14, 1980].

ADOPTION OF AMENDMENT

Accordingly, the preamble of SFAR 41 and the text of SFAR 41 of the Federal Aviation Regulations (14 CFR SFAR 41) are amended, effective April 14, 1980.

[Secs. 313(a), 601, 603, and 604, Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, and 1424); Sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)).]

NOTE: The FAA has determined that this document involves a regulation which is not significant under Executive Order 12044, as implemented by DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

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## Special Federal Aviation Regulation 41B

## Increase in Approved Takeoff Weights and Passenger Seating Capacities

**Adopted: December 2, 1980** **Effective: December 8, 1980**

(Published in 45 FR 80972, December 8, 1980)

SUMMARY: This amendment specifies the additional requirements for airplane designs certificated under Special Federal Aviation Regulation No. 41 (SFAR 41) that are necessary to comply with the airworthiness standards of International Civil Aviation Organization (ICAO), Annex 8. Manufacturers or modifiers of these airplanes may voluntarily elect to comply with these additional requirements to facilitate international operations. SFAR 41 was issued on September 7, 1979, and amended on April 7, 1980, to clarify its applicability. SFAR 41 prescribes additional airworthiness standards applicable to existing propeller-driven multiengine small airplanes to allow their type and airworthiness certification at weights in excess of 12,500 pounds maximum certificated takeoff weight, or with an increase in the number of passenger seats, or both.

Comments must be received on or before March 9, 1981.

FOR FURTHER INFORMATION CONTACT:

Eli S. Newberger, Regulatory Projects Branch (AVS-24), Safety Regulations Staff, Associate Administrator for Aviation Standards, Federal Aviation Administration, 800 Independence Ave., S.W., Washington, D.C. 20591. Telephone (202) 755-8716.

ADDRESS: Comments on this amendment may be mailed in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC-204), Docket No. 18315, 800 Independence Avenue, SW., Washington, D.C. 20591; or delivered in duplicate to: Room 916, 800 Independence Avenue, SW., Washington, D.C. 20591. All comments must be marked: Docket No. 18315. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

SUPPLEMENTARY INFORMATION:

### Background

SFAR 41 was issued to provide for increased availability and utility of existing small multiengine propeller-driven airplanes in U.S. domestic commuter service by permitting type and airworthiness certification at weights above the limitation of 12,500 pounds maximum certificated takeoff weight. The SFAR permits an increase in the maximum certificated takeoff weight above 12,500 pounds, or an increase in passenger seating, or both, provided the maximum zero fuel weight does not exceed 12,500 pounds. Aircraft eligible for compliance with the SFAR must have been certificated to Federal Aviation Regulations Part 23 (FAR 23) prior to October 17, 1979, and an application for certification to SFAR 41 for the airplane must be filed prior to October 17, 1981. The production of airplanes certificated above 12,500 pounds, however, will be limited to 10 years after the effective date of SFAR 41, that is, until October 17, 1989.

No limitation has been established for the operational life of individual aircraft that were manufactured in conformance to a design approved under SFAR 41 prior to October 17, 1989.

### Discussion

Certification under SFAR 41, as that regulation is presently worded, requires an endorsement on the airworthiness certificate to indicate that the airplane at weights in excess of 5,700 kg (12,566 pounds) does not meet ICAO Annex 8, *"International Standards, Airworthiness of Aircraft, to the Convention on International Civil Aviation."* In the public rulemaking process followed before adoption of SFAR 41, technical differences were acknowledged to exist between SFAR 41 and ICAO Annex 8. After issuance of the SFAR, it was called to the FAA's attention that certain airplanes certificated to SFAR 41 could also be shown to comply with ICAO Annex 8. As written, however, SFAR 41 specifically re-

quires all individual airworthiness certificates issued for aircraft type certificated under SFAR 41 to be specifically annotated otherwise. The purpose of this amendment is to eliminate this contradiction and allow those aircraft which do comply with ICAO Annex 8 to be free of statements to the contrary on their airworthiness certificates.

Article 33 of the Convention on International Civil Aviation (Chicago Convention) provides for the recognition of airworthiness certificates between contracting States when the airworthiness standards established by the Convention are met. The airworthiness standards established by the Convention are contained in ICAO Annex 8. Part III of ICAO Annex 8 sets forth objective standards applicable to airplanes of over 5,700 kg (12,566 pounds), maximum certificated takeoff weight intended for the carriage of passengers or cargo or mail in international air navigation. Noncompliance with these standards could seriously inhibit the international operations of affected airplanes.

The FAA, in the period since issuance of SFAR 41, has compared the airworthiness standards in Part III of ICAO Annex 8 with the airworthiness standards in FAR 23 plus SFAR 41. In this connection, the FAA has determined which specific FAR 25 airworthiness requirements must be met to ensure compliance with ICAO Annex 8, and they are listed in the body of the rule. It should be emphasized that the election to seek a more flexible international operations capability for airplanes already certificated to SFAR 41 by complying with these additional requirements is voluntary.

When an applicant elects to comply with the additional requirements of this amendment, the type certification basis statement on the type certificate data sheet or supplemental type certificate will indicate that the design meets the requirements of ICAO Annex 8. Aircraft covered under these certificates are excepted from the airworthiness certificate endorsement required by section 4(b) of SFAR 41. Applications for certification under SFAR 41 must be on file before October 17, 1981. However, applications for certification under the additional standards contained in this amendment may be made at any time for aircraft already certificated to SFAR 41. Since the additional standards of this amendment reflect specific standards of FAR 25 which may change after this amendment, the standards cited are those in effect on October 17, 1979, the effective date of SFAR 41.

## Request For Comments

Interested persons are invited to submit comments on only this amendment. Communications should identify the docket number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. This amendment may be changed in the light of the comments received. All comments received will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons.

## Notice and Public Procedure

The FAA recognizes that although the objective of SFAR 41 was met to increase the utilization of certain FAR 23 aircraft in U.S. domestic commuter service, difficulties may be encountered with the operation of such aircraft in foreign countries to the extent that the FAA precludes these aircraft from meeting the standard of ICAO Annex 8. In view of this, the FAA has determined those standards that will permit the voluntary compliance by persons seeking to undertake international operations with airplanes certificated under SFAR 41. Since this action is necessary to avoid imposing an undue burden on the international operations of these airplanes and since the FAA had no intention to preclude voluntary compliance with ICAO Annex 8 when SFAR 41 was issued, I find that notice and public procedure are impractical and contrary to the public interest and that good cause exists for making this amendment effective in less than 30 days. Accordingly, this amendment is effective on the date it is published in the *Federal Register* (45 FR 80972, 12/8/80).

## ADOPTION OF AMENDMENT

In consideration of the foregoing, SFAR 41 of the Federal Aviation Regulations [14 CFR SFAR 41] is amended effective December 8, 1980.

[Sec. 313(a), 601, 603, 604, Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424); Sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c))]

NOTE: The FAA has determined that this document involves an amendment which is not considered to be significant under the procedures and criteria prescribed by Executive Order 12044 as implemented by Department of Transportation Policies and Regulatory Procedures (44 FR 11034; February 26, 1979). A copy of the final evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified above under the caption "FOR FURTHER INFORMATION CONTACT".

This rule is a final order of the Administrator as defined by Section 1005 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1485). As such, it is subject to review only by the courts of appeals of the United States or the United States Court of Appeals for the District of Columbia.

# Special Federal Aviation Regulation 41C

## Airworthiness Standards: Reciprocating and Turbopropeller-Powered Small Multiengine Airplanes: SFAR 41 Interim Standards

**Adopted: July 21, 1982** **Effective: September 13, 1982**

(Published in 47 FR 35150, August 12, 1982)

SUMMARY: This amendment reinstates and extends the effectivity of Special Federal Aviation Regulation (SFAR) 41 which expired October 17, 1981, and amends the SFAR to: (1) Eliminate the 12,500-pound maximum zero fuel weight (MZFW) restriction; (2) limit the number of passenger seats to 19 for those small propeller-driven multiengine airplanes that operate at a certificated gross takeoff weight in excess of 12,500 pounds; and (3) relax the landing distance determination requirement, making it consistent with Parts 23 and 25. This amendment results from a number of petitions for exemption and rulemaking submitted to the FAA and provides economic benefits to commuter airlines by improving operating efficiency without compromising safety. This amendment does not address the possible codification of SFAR 41 into Part 23 as mentioned in Notice 82-3.

FOR FURTHER INFORMATION CONTACT:

Joseph Snitkoff, Certification Procedures and Standards Branch (AWS-130), Aircraft Engineering Division, Office of Airworthiness, Federal Aviation Administration, 800 Independence Ave., S.W., Washington, D.C. 20591, Telephone (202) 426-8395.

SUPPLEMENTARY INFORMATION:

Background

A longstanding limitation, which distinguishes between large and small airplanes, requires all new type certificated airplanes with a maximum certificated takeoff weight of more than 12,500 pounds to meet the transport category airworthiness standards of Part 25 of the Federal Aviation Regulations, regardless of the type of operation or number of passenger seats. At the time this limitation was established in the regulations, there were a few small airplanes with maximum weights near 12,500 pounds. The International Civil Aviation Organization (ICAO) standards make a similar distinction.

SFAR 41 was adopted as an interim standard to permit limited growth and utilization of existing small propeller-driven multiengine airplanes that had demonstrated, through service experience, a satisfactory level of safety. These airplanes were made available to the emerging commuter airline industry consistent with the Airline Deregulation Act of 1978, without compromising the high safety standards in air transportation. SFAR 41 was designed to fill the gap between Part 23 and Part 25 certification standards until commuter airplanes could be developed and certificated to a set of standards more appropriate to their size and type of operation.

SFAR 41 prescribes additional airworthiness standards applicable to existing small propeller-driven multiengine airplanes. It allows, in part, type and airworthiness recertification of these airplanes at weights in excess of 12,500 pounds maximum certificated takeoff weight and with an increase in the number of passenger seats. A design restriction is imposed which limits the maximum zero fuel weight to 12,500 pounds.

The regulation was amended April 14, 1980 (SFAR 41A; 45 FR 25046), for clarification and to make editorial changes. It was further amended December 8, 1980 (SFAR 41B; 45 FR 80972), to specify additional requirements needed to comply with ICAO Annex 8 airworthiness standards. SFAR 41B expired October 17, 1981.

Notice of Proposed Rulemaking (NPRM) 82-3 to reinstate and amend SFAR 41 was published in the *Federal Register* on March 4, 1982 (47 FR 9360). The comment period closed on April 20, 1982. Comments received after the closing date were also considered in accordance with § 11.47(a).

Discussion of Comments

Twenty sets of comments were received concerning Notice 82-3 from many segments of the aviation community. Views of airplane manufacturers, owners, operators, pilots, foreign airplane manufacturers, foreign aviation authorities, and the flying public were received in response to the notice. In addition to the comments on Notice 82-3, one commenter's response to the related petition concerning landing distance determination also is disposed of in this change to SFAR 41.

Reinstatement of SFAR 41

Two commenters oppose reinstating SFAR 41. They maintain that SFAR 41, by virtue of its status as an interim standard, is deficient in many respects to Part 25 and therefore does not provide an equivalent level of safety to Part 25. They point out that SFAR 41 has lower performance standards and lacks comparable emergency evacuation, systems and equipment reliability and integrity, and fire protection requirements.

Regarding the contention that SFAR 41 is deficient compared to Part 25, the FAA wishes to point out that SFAR 41 was never intended as an equivalent to or a replacement for Part 25 with identical requirements. Rather, SFAR 41 was promulgated to enable greater utilization of existing Part 23 type airplanes for commuter operations when those airplanes are certificated to the higher standards of SFAR 41 even though they may not meet transport category certification requirements. The SFAR 41 standards incorporated additional airworthiness, crashworthiness, and airplane performance requirements designed to provide the necessary level of safety for a type of airplane that heretofore had not had such requirements specifically developed for it. Airplanes certificated under SFAR 41 have a good safety record. Extending the applicability of SFAR 41 for a limited period of time will benefit the commuter airplane industry and the flying public by improving service and operating efficiency with no derogation of safety. SFAR 41 was and will continue to be applicable only to small propeller-driven multiengine airplanes certificated before October 17, 1979, with a satisfactory service history at the time of application. This applicability date is not changed by this final rule; therefore, the proposal to reinstate the effectivity of SFAR 41 is adopted without substantive change.

Removal of the Maximum Zero Fuel Weight (MZFW) Restriction

Thirteen commenters support and one opposes removing the MZFW restriction. The opposing commenter proposes that instead of this, a maximum takeoff weight or a new MZFW limitation be established to control the large increases in weights for aircraft used in combined commuter/cargo operations which he predicts could result from removing the restriction. Such large weight increases, however, could not occur since there is a regulatory constraint on maximum payload of 7,500 pounds for commuter operations under Part 135 which, together with the 19-passenger limitation, effectively maintains aircraft weights at reasonable levels. Supporters of the proposal claim that removing the MZFW restriction is in the public interest as it increases the commuter airlines' profit potential and reduces operating costs without any adverse effect on safety. They assert that the MZFW is only a design consideration and should not be a limitation. Further, removing the restriction would permit the use of improved avionics equipment which, even though adding to the aircraft weight, would still result in economic benefits because of the greater payload allowed. Therefore, the proposal to eliminate the MZFW restriction is adopted without substantive change.

19-Passenger Limit

SFAR 41 through Amendment 41B contained no limitation on the number of passengers, but imposed a MZFW restriction of 12,500 pounds. Notice 82-3 made clear that, as a condition for eliminating the MZFW restriction, a specified passenger limit would be prescribed to preclude escalation of airplane size to the point where Part 25 standards would apply. As explained, a 19-passenger configuration was selected as the

logical and economic limit to avoid the burden that would be imposed by flight attendant and possible other requirements for additional passengers. Eight commenters support the 19-passenger limitation and six commenters oppose it on the basis that a greater number be allowed. Those opposed believe that passenger capacities above 19 should be permitted as long as the airplane meets all applicable regulations, the safety level is not lowered, and there are some economic benefits to be gained. They point out that SFAR 41 to date does not contain constraints on the number of passengers except to define minimum aisle widths for 10 to 23 passengers and configurations with over 23 passengers, and specifies additional airworthiness standards for 16 to 23 passengers. Therefore, since SFAR 41 permitted applicants to request certification for more than 19 passengers, it is argued that the proposed limitation becomes arbitrarily restrictive in not allowing other manufacturers the same opportunity. Advocates of a higher passenger limitation also agree that the proposed limitation is artificial, that the additional emergency equipment that would be required is minimal, and that the number of emergency exits required for 16 to 23 passengers is the same. Three commenters support a 23-passenger limitation. None of these commenters, however, discuss the passenger limitation in the context of tradeoff for eliminating the MZFW.

When SFAR 41 was originally developed, both the FAA and the public involved in the rulemaking agreed that some constraint should be imposed to limit the number and size of airplanes designed to SFAR 41 standards. The "number" aspect was addressed by making SFAR 41 applicable only to airplanes type certificated before October 17, 1979. To limit the size, both an MZFW and passenger limit were discussed. At that time it was deemed most appropriate to utilize the MZFW as the means for controlling size. In today's economic environment, however, it is realized that this limit may impose undue hardship on SFAR 41 airplane operators and may even impede installing improved equipment. As recognized by some commenters, the FAA must now establish some other limiting criteria to prevent escalating SFAR 41 small airplanes into larger, pseudotransport-category types, and the 19-passenger limitation can effectively serve this purpose. Accordingly, the 19-passenger limitation is adopted without substantive change.

The FAA has reviewed all aircraft certificated (and existing applications for certification) under SFAR 41 and has found that all these airplanes involve no more than 19 passengers. Thus, imposing the 19-passenger limit will not adversely affect any existing application. Limiting the passenger configuration does not contradict the provisions of the Airline Deregulation Act in that it provides economic benefits for existing commuter and cargo operations without degrading safety.

Two commenters state that, if the 19-passenger limitation is adopted, reference to passengers in excess of 19 in the table of paragraph 5(e) (*k*) under *Doors and Exits* should be deleted. The FAA agrees and the table is amended to reflect the maximum passenger seating configuration of 19. Other changes proposed in Notice 82-3, consistent with the elimination of the MZFW restriction and adoption of the 19-passenger-seat configuration (proposals numbered 3, 4, 6, and 7), are adopted without change. No substantive comments beyond those previously discussed were made on these proposals.

### Landing Distance Determination

Proposal 5 addresses the landing distance determination of SFAR 41 airplanes. It proposes to amend paragraph 5(c) (*a*) to relax the landing distance determination requirement to make it consistent with current Parts 23 and 25. In addition to comments expressing overall concurrence with Notice 82-3, six commenters specifically support the proposed change to paragraph 5(c) (*a*). Additionally, one of these commenters suggests two changes to Appendix A of Part 135. One change pertains to paragraph 6(a) (2) of Appendix A of Part 135 and would separate the go-around and landing cases or completely eliminate the $1.05V_{MC}$ requirement. The other change would realign paragraph 7(b) of Appendix A of Part 135 to relax the landing distance determination requirement in a manner similar to that proposed for SFAR 41, paragraph 5(c) (*a*). Neither of the changes

suggested by the commenter are addressed at this time as revising Part 135 is beyond the scope of this rulemaking action.

However, the FAA does recognize that all applicants eligible for an amended or supplemental type certificate under SFAR 41 should be entitled to the benefits of the relaxed landing distance determination requirement proposed for paragraph 5(c)(*a*). Therefore, in addition to amending paragraph 5(c)(*a*) as proposed, which relaxes the requirement for aircraft certified under paragraph 1(b) of SFAR 41, identical relief is granted for aircraft certificated under paragraph 1(a) of SFAR 41 by amending paragraph 1(a)(2) to allow the $1.3V_{s1}$ gliding approach of the present § 23.75(a) or an alternative steady approach of a specified gradient.

One commenter disagrees with the proposal to relax the landing distance determination requirement of paragraph 5(c)(*a*) by allowing landing distances to be determined in accordance with § 23.75. The commenter cites the proliferation of operations under Part 135 with SFAR 41 airplanes and notes the importance and advantages of requiring the same high level of safety as provided under Part 121. The commenter cites the added safety factors in Part 121 of 1.67 and 1.43 for landing distances at destination and alternate airports, respectively.

The FAA agrees with the commenter's assertion with regard to the level of safety in landing distance determination for Parts 135 and 121 aircraft. This is exemplified by the fact that the 1.67 and 1.43 safety factors are required in both Parts 135 and 121. With the continued applicability of these identical landing safety factors and approach techniques, the same high level of safety will be maintained for landing distance determination with both SFAR 41/Part 135 and transport category/Part 121 airplanes.

By implementing the proposed change to SFAR 41, the landing distance would be determined using either a $1.3V_{s1}$ power approach or a $1.3V_{s1}$ gliding approach as specified currently in both §§ 23.75 and 25.125. If paragraph (*a*) under Section 5(c) of SFAR 41 remains unchanged, longer (and thus more conservative) landing distances would be specified for an airplane certificated under SFAR 41 than if that airplane were certificated under the existing Part 23 or Part 25. There is no justifiable reason for this inequity to exist. Because landing distances determined under SFAR 41 were overly conservative and since the landing safety factors are identical in Parts 135 and 121, the FAA cannot support the commenter's position. Therefore, the change to paragraph (*a*) under Section 5(c) is adopted as proposed and paragraph 1(a)(2) is similarly revised for consistency.

Miscellaneous Comments

Notice 82-3 proposed to extend the pre-existing production cutoff date by 2 years. Five commenters express support of the extension and cite the reasons given in the NPRM. One commenter misunderstood the proposal, believing the extension of the cutoff date to be only 1 year, and states that it should be related to the effective date of the amendment. The proposal to extend the production cutoff date from 1989 to 1991 is adopted without substantive change.

Proposal 8 extends the expiration date of SFAR 41C to 1 year after the effective date of this amendment. Five commenters specifically support this proposal and one commenter suggests that the expiration date be extended to 2 years. The FAA believes that 1 year affords sufficient time for manufacturers to apply for certification of their existing models with the MZFW restriction removed. Proposal 8 is adopted without substantive change.

One commenter proposes to delete the date "October 17, 1979" from paragraph 1(a) and 1(b) of SFAR 41 and to insert in its place "the effective date of this amendment." He states that under the proposed rule, an applicant having designed an airplane of this class after October 17, 1979, would be required to certify its airplane under Part 25 and would not be permitted certification under SFAR 41. The commenter feels it would be arbitrarily restrictive not to permit an applicant the opportunity to certify its airplane to SFAR 41 standards. The FAA considers this suggested change to be outside the scope of this rulemaking action.

Comments on Codification of SFAR 41 into Part 23

Notice 82-3 invited comments on the advisability of codifying the substance of SFAR 41B and the proposed SFAR 41C into Part 23 and to extend its applicability to new multiengine airplanes having a maximum takeoff gross weight greater than 12,500 pounds with 19 passenger seats. By its request, the FAA merely wished to accept preliminary comments on the advisability of changing Part 23, with the intent that any definite proposals would be included in future notices. Many interesting views and comments received on this issue are included in the docket file. In general, there is great interest in providing a viable regulation applicable to the certification of commuter airplanes. The FAA realizes that this issue needs careful study and review by all concerned, and it will be addressed in a separate notice.

Economic Impact and Benefits

Eliminating the MZFW restriction will have no adverse safety impact and may, in fact, improve safety because operators will be encouraged to add additional or improved avionics equipment. Aircraft operators will now be able to add more passenger seats, up to 19, increase baggage allowances, provide improved passenger amenities, and increase cargo capacity. Because the marginal cost of carrying the additional payload would be relatively low compared to the additional revenue for such carriage, the added utility of this payload increase could be significant.

A commuter carrier estimates that the proposed rule would permit an additional 1,500 pounds of cargo in its aircraft. At a cargo yield of 40 cents per pound, the carrier has the potential to increase its revenue by $936,000 per year. In addition, the carrier points out that there have been instances where it had been forced to refuse a shipment because of its weight. It also could increase the number of its passengers from 16 to 19 on one of its route segments.

It has been determined that the proposal to allow the use of shorter runways will not have an adverse impact upon safety. Economic benefits include the increased availability of air transportation to small cities that might otherwise be denied service because of short runways. For example, for a certain airplane the landing distance could be reduced from 5,171 feet to 4,100 feet. While difficult to measure in dollar terms, the benefits would be substantial, and because there would be no adverse impact on safety, the regulatory change will be in the public interest.

The airplane manufacturer will face some moderate costs in recertifying the airplane to the proposed new weight and landing distance criteria. An airplane manufacturer who does not wish to establish revised weight or landing distance limitations will not incur these costs.

Summary of Final Regulatory Flexibility Analysis

The Regulatory Flexibility Act requires an analysis of alternatives if a proposal has a significant economic impact on a substantial number of small entities.

The amendment to eliminate the MZFW restriction will have a significant positive impact on a substantial number of entities. The amendment is relaxatory in nature and a manufacturer may choose either to seek the benefits of the proposal or maintain the status quo. No further easing of the MZFW restriction is possible; therefore, there are no other alternatives to consider.

The amendment relating to the minimum landing distance determination will have a significant economic impact on a substantial number of small entities. There are no other relaxatory alternatives consistent with safety. Thus landing distance determination is needed to be consistent with longstanding §§ 23.75 and 25.125, the requirements of which have been proven by service experience and for which there is no safety basis to consider further relaxation.

If increasing the proposed 19-passenger limitation (for example, to 23 passengers) would improve the economic utility of a qualifying airplane as some commenters contend,

this would not impact a substantial number of small entities and, therefore, need not be analyzed. The agency believes that without an MZFW restriction, there must be a passenger limitation to prevent these SFAR 41 airplanes which do not meet Part 25 standards from an uncontrolled increase in size. It is the FAA's judgment that airplanes carrying more than 19 passengers require different standards. The FAA will review Parts 23 and 25 as applicable to new commuter type airplanes and will give careful consideration to the issue of a passenger limitation.

The final Regulatory Flexibility Analysis and Regulatory Flexibility Determination are combined with the Regulatory Evaluation in the docket.

## ADOPTION OF AMENDMENT

Accordingly Special Federal Aviation Regulation 41 (14 CFR Parts 21, 23, 36, 91, 121, 135, and 139) is amended effective September 13, 1982.

(Sec. 313(a), 601, 603, and 604 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424); Sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)).)

NOTE: This amendment will allow manufacturers and operators of certain existing airplanes the option of complying with relaxed requirements that will increase payloads and improve air carrier services to the public. The FAA has determined that it involves a regulation which is not a major rule under Executive Order 12291 and is not a significant rule under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A regulatory evaluation, including a final regulatory flexibility analysis, has been placed in the public docket. A copy of it may be obtained from the person identified under "FOR FURTHER INFORMATION CONTACT."

## Special Federal Aviation Regulation 41

1. *Applicability.* (a) Contrary provisions of Parts 21 and 23 of the Federal Aviation Regulations notwithstanding, an applicant is entitled to an amended or supplemental type certificate in the normal category for a reciprocating or turbopropeller-powered multiengine small airplane originally type certificated prior to October 17, 1979, in accordance with Part 23 of the Federal Aviation Regulations in effect on March 31, 1971, or later, that is to be certificated with a passenger seating configuration, excluding pilot seats, of 10 seats or more (but not more than 19 seats) at a maximum certificated takeoff weight of 12,500 pounds or less, if the applicant complies with—

(1) The regulations incorporated in the type certificate; and

(2) The requirements of Appendix A of Part 135 of the Federal Aviation Regulations in effect on September 26, 1978, except that the landing distance must be determined for standard atmosphere at each weight, altitude, and wind within the operating limits established by the applicant in accordance with § 23.75(a) of this chapter in effect on September 26, 1978. Instead of a gliding approach specified in § 23.75(a), the landing may be preceded by a steady approach down to the 50-foot height at a gradient of descent not greater than 5.2 percent (3°) at a calibrated airspeed not less than $1.3V_{s1}$.

(b) Contrary provisions of Parts 1, 21, 23, 91, 121, and 135 of the Federal Aviation Regulations notwithstanding, an applicant is entitled to an amended or supplemental type certificate in the normal category for a reciprocating or turbopropeller powered multiengine airplane originally type certificated prior to October 17, 1979, that is to be certificated with a maximum takeoff weight in excess of 12,500 pounds, a specified maximum zero fuel weight to be established by the applicant, and, where requested by the applicant, an increase in passenger seating configuration, (but not more than 19 passenger seats) if the applicant complies with—

(1) The regulations incorporated in the type certificate;

(2) The requirements of Appendix A of Part 135 of the Federal Aviation Regulations in effect on September 26, 1978 with the exceptions specified in section 5 of this Special Federal Aviation Regulation; and

(3) The additional requirements specified in sections 7 through 14 of this Special Federal Aviation Regulation applicable to takeoff weights in excess of 12,500 pounds.

(c) Contrary provisions of Part 1 of the Federal Aviation Regulations notwithstanding, an airplane certificated under paragraph (b) of this section is considered to be a small airplane for purposes of Parts 21, 23, 36, 121, 135, and 139 of the Federal Aviation Regulations and a large airplane for purposes of Parts 61 and 91. Compliance with the small airplane provisions of Part 36 of the Federal Aviation Regulations must be shown at the maximum certificated takeoff weight approved under this Special Federal Aviation Regulation.

2. *Eligibility.* Any person may apply for a supplemental type certificate (or an amended type certificate in the case of a type certificate holder) under this Special Federal Aviation Regulation.

3. *Production limitation.* An amended or supplemental type certificate issued pursuant to section 1.(b) of this Special Federal Aviation Regulation is effective for the purpose of obtaining an original or an amended airworthiness

certificate, until October 17, 1991, unless the type certificate is sooner surrendered, suspended, revoked, or terminated.

4. *Restrictions.* For airplanes under section 1.(b) of this Special Federal Aviation Regulation—

(a) The maximum zero fuel weight of the airplane must be established as an operating limitation; and

(b) Except as provided in paragraph (c) of this section, the airworthiness certificate shall be endorsed "This airplane at weights in excess of 5,700 kg does not meet the airworthiness requirements of ICAO, as prescribed by Annex 8 of the Convention on International Civil Aviation."

(c) An applicant is entitled to type certificate amendment or a supplemental type certificate that shows compliance with ICAO Annex 8 if the airplane meets SFAR 41 and the following requirements prescribed by the Administrator in effect on October 17, 1979:

(1) At each weight, altitude, and temperature within the operational limits selected by the applicant—

(i) For approach climb performance, comply with §§ 25.121(d) and 25.1533(a) (2).

(ii) For takeoff performance, comply with §§ 25.105(d), 25.111, 25.113(a), and 25.115.

(2) For gust loads design at rough air gust speed $V_B$, comply with §§ 25.335(d), 25.341(a) (1), and 25.351(b).

(3) For smoke evacuation design, comply with § 25.831(d).

(4) For engine rotation and restarting design, comply with §§ 25.903(c) and (e).

(5) For engine cooling design, comply with § 25.1521(e).

5. *Exceptions.* For purposes of obtaining an amended or supplemental type certificate under section 1.(b) of this Special Federal Aviation Regulation, the following exceptions apply. All references in this section to specific sections of Parts 23 and 25 of this chapter are to those in effect on September 26, 1978 if no other date is given:

(a) Compliance with section 1 of Appendix A of Part 135 of the Federal Aviation Regulations is not required.

(b) Compliance may be shown with the applicable regulations incorporated in the type certificate in lieu of the requirements of Appendix A of Part 135 of the Federal Aviation Regulations for takeoff weights of 12,500 pounds or less, if the airplane was type certificated—

(1) Under FAR Part 23 in effect prior to Amendment 23-10 and the airplane is to be used only in FAR Part 91 operations;

(2) Before July 1, 1970, in the normal category with a passenger seating configuration, excluding any pilot seat, of 10 seats or more, (but not to exceed 19 passenger seats) and meets special conditions issued by the Administrator for airplanes intended for use in operations under FAR Part 135; or

(3) Before July 19, 1970, in the normal category with a passenger seating configuration, excluding any pilot seat, of 10 seats or more, (but not to exceed 19 passenger seats) and meets the additional airworthiness standards in Special Federal Aviation Regulation No. 23.

(c) In lieu of compliance with sections 7., and 19.(c) of Appendix A of Part 135 of the Federal Aviation Regulations, comply with the following at takeoff weights in excess of 12,500 pounds:

*Landing.*

(a) The landing distance must be determined for standard atmosphere at each weight, altitude, and wind within the operational limits established by the applicant in accordance with § 23.75(a) of this chapter. Instead of a gliding approach specified in § 23.75(a), the landing may be preceded by a steady approach down to the 50-foot height at a gradient of descent not greater than 5.2 percent (3°) at a calibrated airspeed not less than 1.3 $V_{S1}$.

(b) The landing distance data must include correction factors for not more than 50 percent of the nominal wind components along the landing path opposite to the direction of landing, and not less than 150 percent of the nominal wind components along the landing path in the direction of landing.

(d) In lieu of compliance with Section 28 of Appendix A of Part 135 of the Federal Aviation Regulations, comply with the following:

*Fatigue evaluation of flight structure.* Unless it is shown that the structure, operating stress levels, materials, and expected use are comparable from a fatigue standpoint to similar design which has had substantial satisfactory service experience, the strength, detail design, and the fabrication of those parts of the wing, wing carrythrough, vertical fin, horizontal stabilizer, and attaching structure whose failure would be catastropic must be evaluated under either—

(a) A fatigue strength investigation in which the structure is shown by analysis, tests, or both, to be able to withstand the replaced loads of variable magnitude expected in service. Analysis alone is acceptable only when it is conservative and applied to simple structures; or

(b) A fail-safe strength investigation in which it is shown by analysis, tests, or both, that catastrophic failure of the structure is not probable after fatigue, or obvious partial failure, of a principal structural element, and that the remaining structure is able to withstand a static ultimate load factor of 75 percent of the critical limit load factor at $V_c$. These loads must be multiplied by a factor of 1.15 unless the dynamic effects of failure under static load are otherwise considered.

(e) In lieu of compliance with section 32 of Appendix A of Part 135 of the Federal Aviation Regulations, comply with the following:

*Doors and exits.* The airplane must meet the requirements of §§ 23.783 and 23.807(a)(3), (b), and (c) of this chapter, and in addition the following requirements:

(a) Each cabin must have at least one easily accessible external door.

(b) There must be a means to lock and safeguard each external door against opening in flight (either inadvertently by persons or as a result of mechanical failure or failure of a single structural

element). Each external door must be operable from both the inside and the outside, even though persons may be crowded against the door on the inside of the airplane. Inward opening doors may be used if there are means to prevent occupants from crowding against the door to an extent that would interfere with the opening of the door. The means of opening must be simple and obvious and must be arranged and marked so that it can be readily located and operated, even in darkness. Auxiliary locking devices may be used.

(*c*) Each external door must be reasonably free from jamming as a result of fuselage deformation in a minor crash.

(*d*) Each external door must be located where persons using it will not be endangered by the propellers when appropriate operating procedures are used.

(*e*) There must be a provision for direct visual inspection of the locking mechanism by crewmembers to determine whether external doors, for which the initial opening movement is outward (including passenger, crew, service, and cargo doors), are fully locked. In addition, there must be a visual means to signal to appropriate crewmembers when normally used external doors are closed and fully locked.

(*f*) Cargo and service doors not suitable for use as exits in an emergency need only meet paragraph (*e*) of section 5(e) of this regulation and be safeguarded against opening in flight as a result of mechanical failure or failure of a single structural element.

(*g*) The passenger entrance door must qualify as a floor level emergency exit. If an integral stair is installed at such a passenger entry door, the stair must be designed so that when subjected to the inertia forces specified in § 23.561 of this chapter, and following the collapse of one or more legs of the landing gear, it will not interfere to an extent that will reduce the effectiveness of emergency egress through the passenger entry door. Each additional required emergency exit except floor level exits must be located over the wing or must be provided with acceptable means to assist the occupants in descending to the ground. In addition to the passenger entrance door—

(*1*) For a total passenger seating capacity of 15 or less, an emergency exit, as defined in § 23.807(b) of this chapter, is required on each side of the cabin; and

(*2*) For a total passenger seating capacity of 16 through 19, three emergency exits, as defined in § 23.807(b) of this chapter, are required with one on the same side as the door and two on the side opposite the door.

(*h*) An evacuation demonstration must be conducted utilizing the maximum number of occupants for which certification is desired. It must be conducted under simulated night conditions utilizing only the emergency exits on the most critical side of the aircraft. The participants must be representative of average airline passengers with no prior practice or rehearsal for the demonstration. Evacuation must be completed within 90 seconds.

(i) Each emergency exit must be marked with the word "Exit" by a sign which has white letters 1 inch high on a red background 2 inches high, be self-illuminated or independently internally electrically illuminated, and have a minimum luminescence (brightness) of at least 160 microlamberts. The colors may be reversed if the passenger compartment illumination is essentially the same.

(j) Access to window type emergency exits may not be obstructed by seats or seat backs.

(k) The width of the main passenger aisle at any point between seats must equal or exceed the values in the following table:

| Number of passenger seats | *Minimum main passenger* aisle width | |
|---|---|---|
| | Less than 25 inches from floor | 25 inches and more from floor |
| 10 through 19 | 9 inches | 15 inches. |

(f) In lieu of compliance with Section 45 of Appendix A of Part 135 of the Federal Aviation Regulations, comply with § 23.954 of this chapter.

(g) In lieu of compliance with Section 56 of Appendix A of Part 135 of the Federal Aviation Regulations, comply with the following:

*Cowlings.* The airplane must be designed and constructed so that no fire originating in any engine compartment can enter, either through openings or by burn through), any other region where it would create additional hazards.

(h) In lieu of compliance with Section 57 of Appendix A of Part 135 of the Federal Aviation Regulations, comply with § 25.863 of this chapter.

6. *Additional requirements—general.* The additional requirements specified in sections 7 through 14 apply to the certification of airplanes pursuant to section 1.(b) of this Special Federal Aviation Regulation.

7. *Compartment interiors.* (a) If smoking is to be prohibited, there must be a placard so stating, and if smoking is to be allowed—

(1) There must be an adquate number of self-contained removable ashtrays; and

(2) Where the crew compartment is separated from the passenger compartment, there must be at least one sign (using either letters or symbols) notifying all passengers when smoking is prohibited. Signs which notify when smoking is prohibited must—

(i) Be legible to each passenger seated in the passenger cabin under all probable lighting conditions; and

(ii) When illuminated, be so constructed that the crew can turn them on and off.

(b) Each disposal receptacle for towels, paper, or waste must be fully enclosed and constructed of at least fire resistant materials, and must contain fires likely to occur in it under normal use. The ability of the disposal receptacle to contain those fires under all probable conditions of wear, misalignment, and ventilation expected in service must be demonstrated by test. A placard containing the legible words "No Cigarette Disposal" must be located on or near each disposal receptacle door.

(c) Lavatories must have "No Smoking" or "No Smoking in Lavatory" placards located conspicuously on each side of the entry door, and self-contained removable ashtrays located conspicuously on or near the entry side of each lavatory door, except that one ashtray may serve more than one lavatory door if it can be seen from the cabin side of each lavatory door served. The placards must have red letters at least one-half inch high on a white background at least one inch high. (A "No smoking" symbol may be included on the placard).

(d) There must be at least one hand fire extinguisher conveniently located in the pilot compartment.

(e) There must be at least one hand fire extinguisher conveniently located in the passenger compartment.

8. *Landing gear.* Comply with §§ 25.721(a)(2), (b), and (c) of this chapter in effect on September 26, 1978.

9. *Fuel system components crashworthiness.* Comply with §§ 25.963(d) and 25.994 of this chapter in effect on September 26, 1978.

10. *Shutoff means.* Comply with § 23.1189 of this chapter in effect on September 26, 1978.

11. *Fire detector and extinguishing systems.*

(a) *Fire detector systems.*

(1) There must be a means which ensures the prompt detection of a fire in an engine compartment.

(2) Each fire detector must be constructed and installed to withstand the vibration, inertia, and other loads to which it may be subjected in operation.

(3) No fire detector may be affected by any oil, water, other fluids, or fumes that might be present.

(4) There must be means to allow the crew to check, in flight, the function of each fire detector electric circuit.

(5) Wiring and other components of each fire detector system in an engine compartment must be at least fire resistant.

(b) *Fire extinguishing systems.*

(1) Except for combustor, turbine, and tail pipe sections of turbine engine installations that contain lines or components carrying flammable fluids or gases for which it is shown that a fire originating in these sections can be controlled, there must be a fire extinguisher system serving each engine compartment.

(2) The fire extinguishing system, the quantity of the extinguishing agent, the rate of discharge, and the discharge distribution must be adequate to extinguish fires. An individual "one shot" system may be used.

(3) The fire-extinguishing system for a nacelle must be able to simultaneously protect each compartment of the nacelle for which protection is provided.

12. *Fire extinguishing agents.* Comply with § 25.1197 of this chapter in effect on September 26, 1978.

13. *Extinguishing agent containers.* Comply with § 25.1199 of this chapter in effect on September 26, 1978.

14. *Fire extinguishing system materials.* Comply with § 25.1201 of this chapter in effect on September 26, 1978.

*Expiration.* This Special Federal Aviation Regulation terminates on September 13, 1983, unless sooner rescinded or superseded.

## Special Federal Aviation Regulation 44-5
## Air Traffic Control System Interim Operations Plan

**Adopted: August 9, 1982** **Effective: August 12, 1982**

(Published in 47 FR 35156, August 12, 1982)

SUMMARY: This amendment to Special Federal Aviation Regulation (SFAR) No. 44-3 establishes certain procedures for the operation of the National Air Traffic Control (ATC) System, including procedures to be used in the allocation of additional system capacity as it becomes available, while providing for the safe and efficient operation of the air traffic control system. The Administrator has determined that a situation still exists which requires reduced ATC capacity and that the continuation of special air traffic provisions is necessary to provide for the efficient and safe movement of air traffic. This amendment makes adjustments to the air traffic procedures established by SFAR 44-3 to provide for a more efficient movement of air carrier traffic. The amendment eliminates the need for carrier submissions to the FAA and establishes a slot selection system which allows carriers to choose the slots they desire from those available during a slot selection session.

ADDRESSES: Send comments on the rule in duplicate to:

Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC-204), Docket No. 22050, 800 Independence Avenue, S.W., Washington, D.C. 20591.

Comments may be examined in the Rules Docket, weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

PUBLIC HEARING: On August 19, 1982, a public hearing will be held in the FAA Auditorium, third floor, 800 Independence Avenue, S.W., Washington, D.C., to allow FAA representatives to explain this rule and to answer any questions concerning the procedures implemented herein. The hearing will begin at 9:00 a.m.

FOR FURTHER INFORMATION CONTACT:

Edward P. Faberman
Deputy Chief Counsel
202-426-3775

or

Thomas P. Messier
Deputy Director, Office of Aviation Policy and Plans
202-426-0583

Federal Aviation Administration
800 Independence Avenue, S.W.
Washington, D.C. 20591

SUPPLEMENTARY INFORMATION:

Comments Invited

Although this amendment was preceded by a notice of proposed rulemaking, comments are invited on this Special Federal Aviation Regulation.

The FAA also invites comments on the procedures outlined in this regulation. Comments are specifically invited on any aspects of the operation of the Air Traffic Control System under this amendment that suggest a need to modify the regulation, or which should be considered should additional procedures be necessary. Comments received will be reviewed on a continuing basis and this amendment and the Interim Operations Plan may be changed in the light of comments received. Commenters wishing the FAA to acknowledge receipt of their comments in response to this rule must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 22050." The postcard will be date/time stamped and returned to the commenter.

## Background and Discussion

On February 22, 1982, the FAA published SFAR No. 44-3 (47 FR 7816) which modified the previously established special air traffic rules that had been adopted in response to the reduced air traffic control capacity caused by the illegal actions of certain air traffic controllers. Under SFAR 44-3, random drawings have been held to determine the priority order for the allocation of additional arrival capacity at all airports within the contiguous United States in place of the first-come-first-served procedures formerly used. SFAR 44-3 also provides "new entrants" priority treatment in the drawings. "New entrants" are defined in the SFAR as carriers that applied for operating authority from the Civil Aeronautics Board (CAB) prior to August 3, 1981, but had not initiated operations by February 17, 1982. They are given the first priority in each round of drawings for slots. Drawings have been held under SFAR 44-3 for the additional Air Route Traffic Control Center (ARTCC) and controlled airport capacity which will become available for the schedule periods through October 1982.

On March 18, 1982, the FAA issued Notice No. 82-5 (47 FR 12320; March 22, 1982) which requested public comments on a possible change to SFAR 44-3 involving a redefinition of the term "new entrant" as used therein. The notice was issued at the request of the CAB and proposed that "new entrant" be defined as any carrier that has commenced or will commence operations with aircraft having more than 60 seats on or after October 24, 1978. Notice 82-5 would also limit the time period a carrier could be considered a "new entrant" and the number of airports at which new entrants could request slots under the SFAR. The comments submitted on that notice have been considered in this rulemaking.

On June 15, 1982, the FAA issued Notice No. 82-8 (47 FR 26112; June 16, 1982) which proposed several alternative allocation procedures to be used to allocate additional system capacity as it becomes available. It also requested comments on the existing SFAR 44-3 slot allocation procedures.

The NPRM proposed to divide the additional slots available at controlled airports between incumbent carriers and new entrants. It was proposed that the slots would be distributed in three phases—first at a New Entrant Lottery, then at an Impacted Incumbent Ranked Drawing, and finally at a General Random Lottery. It was proposed that impacted incumbents be defined as those carriers who, on the date the drawing is held, hold fewer slots at particular controlled airports than they did on September 1, 1981. Comments were solicited on the parties to be included in the General Random Lottery.

Comments on the proposal were submitted by air carrier associations, groupings of air carriers, individual air carriers, airport operators, local and municipal governments, and individuals. All comments submitted have been considered in the promulgation of this final rule.

## Discussion of Comments and Final Rule

Significant comments were submitted on all aspects of the proposal. The following discussion summarizes the rule, explains the changes from the proposal and discusses a number of the significant comments.

Since the implementation of the Interim Operations Plan, it has been the FAA's objective to utilize procedures which have permitted the safe and efficient operation of the ATC system based upon the air traffic work force available at each ATC facility within the system while allowing the air carriers the maximum possible control over their operations. This goal has been achieved with cooperation of all classes of users. Any procedures utilized should permit adjustments to the system to provide the industry with the ability to change route systems and schedules that routinely occur. This will result in improved service for the public.

A number of commenters have suggested that the agency abandon the "lottery" system currently being used for slot distribution. The Air Transport Association (ATA) suggested that carriers be permitted to make their own selections of new or additional

slots in accordance with an established list determining the order in which selections can be made.

The Regional Airline Association (RAA) also proposes one rotating selection procedure for all slot allocation purposes. They state that this will guarantee that every carrier desiring slots will have the opportunity for a priority selection at some point. Most of the commenters support this concept.

Slot Selection Session

Slot selection will function in the following manner. All air carriers seeking authority for flights in excess of their current approved base must notify the Office of the Chief Counsel, in writing (original and two copies), of the identity of the individual or individuals who will represent the carrier in the slot selection session. On August 20, 1982, the FAA will conduct a random draw to determine the order of selection for all future allocation periods. All carriers which submit the required information to the Rules Docket, Office of the Chief Counsel (AGC–204) by 5:00 p.m. on August 17, 1982, will be included in the draw. Notification for future slot selection sessions must be received 72 hours before the beginning of the slot session. Once a carrier is on the selection list, it need not submit additional notification to the FAA unless it desires to change the individuals who will represent it in future slot selection sessions.

A carrier which submits the required notification, that it seeks slots, to the Chief Counsel's Office after the first session, will be added to the end of the selection list as of the time of its submission.

A number of commenters urge that the FAA should publicly disclose additional capacity in advance of each slot selection session to assist carriers in schedule planning. A number of commenters suggest that this disclosure be made at least 60 days in advance of each allocation period. ATA suggests that the disclosure should make known to the carriers the additional slots at the controlled airports by hour. The FAA has made every attempt to provide as much advance notice as possible as to future availability of slots. For example, SFAR 44–3, which was issued on February 18, 1982, contained a list of targeted slot increases at the controlled airports and at the centers from April through October. The FAA will continue to provide this information as far in advance of a scheduling period as possible. At a minimum, this information will be made public approximately 60 days before the beginning of the schedule period and will show the hours at which the slots will be available at the controlled airports and the total number of slots available in the ARTCC's. It must be emphasized that the information disclosed relating to slot availability represents the agency's current assessment of staffing and training. Since those factors may change over a several week period, it is possible that the exact number and time of slots available at a slot selection session may have to be adjusted a few days before the session.

Some commenters state that information concerning slots should be made available to all interested parties. Most agency documents relating to slot allocation are published in the FEDERAL REGISTER and are circulated to the news media. The agency will continue to do this to maximize public participation in agency decisions and knowledge of agency actions.

After determining the order of priority for slot selection, the next step in the process is the actual procedure to determine which carriers will obtain the slots. Under SFAR 44–3, slots are awarded by the FAA in accordance with a priority established by a random draw. Carriers are required to submit requests for slots in priority order. As slots are allocated, individual carriers are given slots based upon availability of the carrier's highest listed priority slots.

A number of commenters suggest that a procedure be incorporated which reduces FAA's direct administrative involvement in the process and its direct involvement in airline schedule management. In addition, these commenters suggest that reliance on blind selection be eliminated.

Comments submitted by Joint Carriers[1] on the current SFAR 44-3 allocation procedures state:

> Because the carriers are required blindly to submit request lists without knowing what slots will be made available, the current system provides an incentive to carriers to request an enormous number of slots at all times of the day. This way a carrier increases its chances of getting some slots whether or not they really need those slots. Such a system clearly creates waste and inefficient allocation and use of slots.

Frontier Airlines in its comments states:

> We strongly support the Joint Comments' provisions of carrier *selection* of new slots and automatic FAA approval of these selections. This procedure would obviate the need for the voluminous schedule submissions which are now made prior to each allocation. More importantly, carriers would know what slots they would be receiving beforehand, thereby increasing the probability that they could actually use the slots and decreasing the risk that they would receive a slot on one end of a proposed route without receiving the reciprocal slot on the other end.

As stated above, the FAA believes that any allocation system promulgated should provide for maximum industry flexibility. Therefore, the proposal is modified to provide for a slot selection system which will allow carriers to select slots they prefer without the need to submit written requests. This will reduce the burden on all carriers by eliminating the need to make multiple and sometimes lengthy submittals to the FAA but will also reduce the need for agency personnel to process and respond to these requests. Thus, the costs of both the industry and the Government will be decreased.

The slot selection process will function as follows. Approximately 55 days before the beginning of a schedule period, the FAA will conduct a slot selection session. At the session, air carriers may select available slots from any controlled airport or ARTCC in accordance with the priority established by the one-time random draw. The slots to be awarded as part of the slot selection sessions are only for scheduled service. Slots for charter operations will be handled by the Central Flow Control Facility as described below.

All available slots at the slot selection session will be listed. As a carrier's turn is called it may select any two (or more, as discussed below) available slots. It must make that selection within 5 minutes or it will lose its turn. If capacity still remains after each air carrier on the priority list has had an opportunity to select slots, the allocation sequence will be repeated based upon the order established by the random draw.

Under SFAR 44-3 procedures, a number of charter operators submitted requests for slots in the same manner as other carriers. Those charter operations were accommodated on an individual basis as part of the FAA allocation process. However, it would not be appropriate for carriers to take part in the slot selection process for charter operations. That would result in carriers selecting slots which might only be used a few days during the schedule period. Therefore, slots for charter operations will be distributed by Central Flow Control and not during the slot selection sessions. Requests for charter operations may be submitted up to 70 days before the start of the schedule period in which the operation is planned. The FAA will make every effort to notify carriers within 15 days of receipt of request whether the request is approved. Requests made to Central Flow Control earlier than 15 days prior to the date of intended operation must be in writing and in the format currently being used. Those slots requested cannot be operated without written approval from the FAA. All other charter, extra session, emergency, ferry, pilot training, and mechanical repair checkout flight requests shall continue to be made to Central Flow Control as under existing procedures.

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[1] Comments submitted on behalf of Air Cal, American Airlines, Delta Airlines, Eastern Airlines, Frontier Airlines, Ozark Airlines, Piedmont Airlines, Republic Airlines, Trans World Airlines, United Airlines, USAir.

A number of commenters state that a carrier should be given an option to select a slot or to pass and obtain a priority selection during the next selection session. They state that this will reduce the selection of unneeded slots which are likely to be unused. Since this appears to be beneficial to the carriers, airport operators, and the public, this amendment provides for "passing." An air carrier deciding not to select slots in a particular session must advise the FAA, in writing, prior to the day of the session or verbally during the session, but prior to that carrier's first opportunity to select slots, that it will "pass." If a carrier passes from one session to the next it will be placed at the top of the selection order for the next selection session and will remain in that position in future sessions.[2] If more than one carrier passes, the carrier that passes first will select first at the next session and will remain in that selection position for future selection sessions. The number of slots that can be selected in the next session by a carrier which passes are the slots which that carrier was entitled to select in the first slot selection sequence. In order to limit the number of slot selections that can be accumulated by any particular carrier, a carrier cannot pass in consecutive sessions except for a new entrant carrier which may pass in two consecutive sessions. If a carrier does not use its "passed" selections in the next schedule session, it will lose those selections.

In the NPRM, comments were requested on whether a portion of the allocation should be on an airport-by-airport basis or on a national basis. The rule includes a "national" lottery.

Joint Comments (Joint Commenters) filed by a number of carriers[3] state:

> Under the current system, a slot acquired at one airport may be unusable by a carrier with a limited route system if the carrier is not lucky enough to acquire a slot at another airport so timed that a marketable schedule can be constructed. Therefore, slots are not utilized often for scheduled services during a schedule period . . . .

The Joint Carriers state in respect to this issue:

> A national lottery has one advantage: When a carrier's turn to select two slots arrives, it can select one slot from Airport A and another from Airport B, thereby immediately creating a new round trip opportunity. This advantage is, however, outweighed by serious administrative obstacles to the establishment of an equitable national lottery.

The FAA agrees with both sets of comments and the amendment incorporated herein sets forth procedures which are consistent with both. The amendment provides for a national selection process which allows carriers to select slots at any controlled airport or center. If each carrier had the same number of selections in each round, a carrier with a few operations per day at a few airports would be placed on an equal footing with carriers operating hundreds of operations at dozens of airports. This would be inconsistent with the current slot selection process and would create inequities. An equitable slot distribution system requires some recognition of differences between these types of operations. Therefore, the amendment provides for additional slot selections based upon the number of controlled airports at which an air carrier operates. The number of slot selections which a carrier is entitled to is as follows:

| *Number of controlled airports at which carrier operates (minimum of 2 slots) as of 8/1/82* | *Number of slots carrier may select* |
|---|---|
| 0–5 | 2 |
| 6–21 | 4 |

[2] One slot selection session will be held for each scheduling period. Scheduling periods are for 2-month periods—November-December, January-February, March-April, etc.

[3] Joint Comments were filed on behalf of Air Florida, Alaska Airlines, Capitol Air, Continental Air Lines, Empire Airlines, Midway Airlines, New York Air, Pacific Southwest Airlines, Pan American World Airways, Texas International, and Wein Air Alaska.

In order to limit this recognition, after the first slot selection sequence (round), all carriers will be limited to two selections each time their turn comes up in the selection process.

All parties are reminded that for purposes of this SFAR, the following airport pairs are considered to be the same: O'Hare-Midway; Dallas-Love; Houston International-Hobby.

Impacted Incumbent

The NPRM proposed that a percentage of available slots be allocated to impacted incumbents based upon the percentage of slots that the impacted carrier held on September 1, 1981. It was proposed that the impacted incumbents that lost the most slots be given priority in the selection process.

The Joint Carriers state:

> There is no question that such "impacted incumbent" carriers have been adversely affected by the FAA's slot control program and should, as a matter of equity, receive special status in the distribution of slots.

FAA proposes to grant some priority to restoring the services of incumbents which have been more severely cut back than other incumbents. They propose that impaction be determined on a systemwide basis, based on operations at the 22 pacing airports. They state that allocating slots to incumbents at a particular airport would result in an unfair windfall to those carriers.

Other commenters state that giving some carriers a priority over others is not supported by the facts. They state that all operators have been adversely affected as a result of slot restrictions. These commenters add that FAA procedures have allowed major carriers to expand. Another commenter states that incumbents were given an advantage since they had a large slot base. Other commenters state that it is necessary to increase incumbents' slots so that needed services can be restored.

At the beginning of the Interim Operations Plan, it was necessary for the FAA to take steps to reduce the schedules of air carriers at the 22 controlled airports. This was first accomplished under SFAR 44, issued on August 3, 1981, and implementing Notices to Airmen. These schedule reductions were also included in SFAR 44-1. At a number of airports these reductions averaged 40 percent per hour during most of the day. In some cases, these reductions were over 60 percent.

Beginning with SFAR 44-2, issued on September 29, 1981, which contained procedures for the scheduling period starting on October 25, 1981, the process of allowing carriers to increase their operations began. Under the SFAR 44-2 (first-come-first-serve) and SFAR 44-3 (random draw) procedures, distribution of increased capacity was issued equitably without regard to a carrier's pre-strike base. All carriers were given an equal opportunity to obtain slots.

The FAA agrees that carriers of all kinds have been affected by the reduced operations over the last year. Carriers have been restrained in their plans to grow or modify route systems. They have had limited opportunity to change or add hubs. The fact remains, however, that only one Government action resulted in carriers actually losing existing slots. That action was the mandatory reductions contained in SFARs 44 and 44-1. All carriers were not affected by that action. As the system continues to grow, it is now appropriate to allow those carriers which have been affected by the slot reductions to be given some limited opportunity to restore those reduced slots.

The amendment provides for this limited restoration by giving certain carriers some priority in the selection of slots. At the same time, these provisions contain restrictions to ensure that only a limited number of slots can be obtained in this manner.

To qualify under these provisions, a carrier's September 1, 1981 base will be compared to the carrier's base at the time of the slot selection sessions (for the first session, the base will be the August 20, 1982 base) at all controlled airports. Each incumbent carrier which

at the time of the slot selection session has in its base at least 5 fewer slots at those airports than in its September 1, 1981 base will be given a priority. A number of commenters suggest that whether a carrier is determined to be impacted should be made at each controlled airport. The FAA disagrees. A comparison of a carrier's August and September bases at one isolated airport is not an accurate measure of "impaction." The CAB, in its comments, states that it is opposed to an impacted carrier provision, however, if one is adopted, they state that it should be measured at all controlled airports. They add that this would tend to give a more balanced and objective assessment of the relative effects on individual carriers.

This provision is incorporated to restore slots which were actually taken away from carriers. Therefore, carriers which have lost slots because of their own actions, will not be able to utilize this priority to obtain those slots. Thus, a carrier's September 1981 base will be reduced by the number of slots it has sold and slots it has traded in excess of the number obtained in trades. Likewise, a carrier's August 1982 base will include all slots a carrier has traded for or purchased. The following explains this provision:

> Carrier A's September 1981 base is 245. It sold 22 slots; therefore, the base is reduced by 22 (245–22) to 223. In addition, the carrier obtained 15 slots by trading 40. Therefore, its base is reduced by 25 (40–15) to a final September 1981 base of 198 (223–25).

Carrier A's September 1981 base of 198 slots is then compared to its August 20, 1982 base. If the carrier is 5 or more slots below that September base, then it qualifies as an impacted carrier. For example, if the carrier has 178 slots in its August 1982 base, then it qualifies (198–178 for a difference of 20) as an impacted incumbent. However, if the carrier has 195 slots in its August base (198–195 for a difference of 3), it does not qualify as an impacted carrier.

Each carrier's base could change after each slot session. Therefore, the number of carriers determined to be impacted could also change.

If a carrier is determined to be "nationally impacted," it will move to the head of the priority selection list for the selection of two of the slots it is entitled to during the first selection sequence. The priority selections can only be utilized at a controlled airport at which its August 1982 base is below its September 1981 base. The following explains this provision:

> Carrier A is determined to be nationally impacted and is entitled to 4 slots in the first selection sequence (based upon the number of controlled airports where the carrier operates). Therefore, Carrier A will get a priority selection for 2 of its 4 slots. If Carrier A is 35th on the priority selection list, it will select 2 slots prior to all other carriers and will select 2 slots as the 35th carrier to select. If Carrier A is only below its September 1981 base at airport XYZ and slots are not available at that airport, then the carrier does not get a priority and will select all 4 slots as the 35th carrier.

If more than one carrier is determined to be nationally impacted under this provision, the order of selection will be the order in which the qualifying carriers are under their September 1981 base. The carrier with the largest number of slots below that base will select first.

To ensure that this impacted priority will not result in other carriers not being able to obtain slots at controlled airports, not more than 30 percent of available slots at any particular airport can be obtained through the use of this priority. With these limitations, the vast majority of all slots will be available to all carriers.

As a further limitation, a slot obtained as a result of a priority selection cannot be traded.

This provision does not apply to cargo operators. The CAB, in its comments, states that those operators have more flexibility in selecting slots and, in general, they operate in hours during which the demand for slots has been significantly lower than during other hours. In this connection, although requests for additional flight requests will not be

accepted by the FAA between schedule periods, such requests will be accepted for requests for arrival approvals between 12:01 a.m. and 4:59 a.m., local time. This should assist cargo operators.

New Entrants

The NPRM proposed to distribute 30 percent of slots to new entrants—carriers that did not operate at any controlled airport before January 1, 1981. A number of commenters suggest that the definition be expanded to include additional carriers. Other commenters state that the definition should be narrowed.

Data has not been presented that shows these carriers should receive special consideration. Most commenters have admitted that all have been adversely affected in the same way as a result of slot limitations.

A definition of "new entrant" which would be consistent with comments received would result in a large number of carriers being eligible for a limited pool of slots. In addition, it would significantly reduce the number of slots available for all other carriers. For this reason, this amendment does not contain a special priority for new entrants.

The FAA does believe, however, that some special but limited consideration should be given to carriers not currently holding slots. A carrier that is not operating at any airport on or before August 1, 1982, has appropriate CAB authority, and has applied for an FAA certificate is a new entrant. A new entrant will be allowed four slot selections in the first selection sequence during each session and two slots in each subsequent round. In addition, new entrants are permitted to pass in up to two consecutive selection sessions, although other carriers cannot pass in consecutive sessions. These provisions should enable new entrants to obtain enough slots to begin operation. Some commenters state that new entrants should be able to defer their operation of slots for periods up to 180 days. This would result in unutilized slots. This would not be in the public interest and, therefore, such a special deferral is not adopted.

Use of Lose Provision

SFAR 44-3 contains the following provision (paragraph 3(a) of the Appendix):

> Slot allocations which a carrier does not actually use at least 70 percent of the schedule allocated for any full schedule period will be revoked.

The NPRM proposed to modify that provision to state:

> Slot allocations that a carrier does not actually use 70 percent of the schedule period will be automatically revoked.

A number of commenters state that basing the "use or lose" provision on the schedule period (2-month period) as opposed to basing it on the carrier's schedule is unnecessarily harsh. They state that this would penalize carriers with small fleets of aircraft because they cannot readily substitute aircraft. Other commenters, including some airport operators, believe this provision should be strictly applied.

The FAA believes that it is contrary to the public interest to allow allocated slots to be unused during large portions of a scheduling period. For this reason, the rule is based upon usage of slots during the schedule period. The FAA recognizes, however, that a 70 percent requirement means that slots would be required to be utilized 5 days per week during the entire schedule period. This provision would be particularly burdensome on smaller carriers which operate less than 6 days per week. Therefore, the use or lose provision will be based upon operation of 57 percent of the schedule period. This means that slots must be utilized on an average of 4 days per week. Under this provision, the agency will be in a position to cancel slots during a particular schedule period. It will no longer be necessary to wait until the period is complete to take such actions.

Trade of Slots

The FAA has reviewed the issue of slot trades. A number of commenters state that the agency should lift restrictions on trades. The FAA believes that carriers should be given maximum flexibility in selection of slots and in setting routes. In addition, new computer programs have been completed which provide FAA must greater capability to evaluate air operations using the Air Traffic Control System. Therefore, the agency, on August 4, 1982, issued a Notice of Policy removing most restrictions on slot trades. Those policies are repeated in this document. The following policies apply to slot trades:

1. Slots at controlled airports may be traded for slots at other controlled airports or for slots at centers.

2. Center slots may be traded for slots in other centers.

3. Slots in a carrier's current base or slots which have been awarded to a carrier for a future period may be traded for other slots.

4. Slots previously awarded as Braniff slots (designated by "DS") may be traded for non-Braniff slots. The Braniff slot must continue to be designated by "DS." Carriers which obtain slots designated by "DS" are reminded that these slots are temporary slots and may be withdrawn. Carriers are reminded to review SFAR 44–4.

5. Carriers may trade slots in any numbers, not necessarily on a slot-for-slot basis. However, a trade must involve at least one slot from each carrier participating in a trade.

In addition, the FAA will allow a carrier to trade for another carrier's selection position in a slot selection session.[4] Thus, if Carrier A has position No. 5 in the draw, it may trade its position to Carrier B which is No. 51. If that trade occurs, Carrier B will select 5th, while Carrier A will select 51st. A carrier can also trade its slot selections for the next slot selection session to another carrier. There are two exceptions to this. First, if a "new entrant" trades its slot selections, it loses its extra slots (third and fourth slots) which it has in the first selection sequence as a result of being a new entrant. Secondly, a carrier entitled to more than two slots in the first selection sequence loses the slots it is entitled to over two in the first selection sequence (based upon number of controlled airports at which it operates) if it trades its slot selections.

In order to receive approval for any trade, requests for approvals must be submitted in accordance with the following terms, which are basically the same as those that have been in effect since May 10.

a. All requests for approval must be submitted in writing to the Associate Administrator for Policy and International Aviation, API–1, 800 Independence Avenue, S.W., Washington, S.C. 20591, in the same format as slot requests submitted under SFAR No. 44–3. Exchange requests combined with other requests under the SFAR (such as slides) will not be accepted.

b. Written evidence of both carriers' consent to the exchange must be provided.

c. A record of the exchange will be made available to the public.

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[4] If the carriers involved in a trade of selection positions are not entitled to the identical number of slots during the first slot selection sequence, then the carrier with the higher number of slots will only be able to change selection position for the same number of slots to be utilized by the other carrier. The remaining slots will be selected in accordance with former priority. For example, Carrier S and Carrier T trade positions. Carrier S has 24th priority and is entitled to two first sequence slots while Carrier T is entitled to four slots and has 52nd priority. As a result of the trade, the new carrier priority is as follows:

24th priority—Carrier T—2 slots
25th priority—Carrier X
26th priority—Carrier Y
—
52nd priority—Carrier S—2 slots
Carrier T—2 slots

d. Exchanges of slots necessary for the provision of essential air service within the meaning of Section 419 of the Federal Aviation Act of 1958, as amended, U.S.C. 1389, will not be approved.

e. If the slots being traded are ones acquired subsequent to May 1982, the carriers must present evidence that such slots are in their base. Acceptable evidence would include a telex from the FAA or other FAA documentation authorizing slots.

f. All requests for approval of a trade of a Braniff slot must specifically acknowledge the carrier will relinquish the slot in the event it is recalled as specified in SFAR 44-4 and a statement from the carrier obtaining the slot that it understands that the slot is temporary and may be withdrawn.

Carriers are reminded that certain ARTCCs are operating at their current capacity levels. Requests for approval of trades which will increase workloads at those centers (including overflights) above a level which can be safely handled by the work force, as determined by the Administrator, may be denied. The centers which are currently working at or near capacity are Chicago, Cleveland, Indianapolis, and New York. This list may change as staffing changes. The list will be modified as necessary. This restriction does not mean that all trades of slots within those centers will be disapproved. It means, however, that new arrivals or departures within certain sectors of those centers may not be approved. If a request for approval cannot be approved for this reason, the carriers involved will be given an opportunity to amend their submittal.

All carriers are asked to minimize new operations within these centers. The FAA is making every attempt to improve staffing at these locations. Until that occurs, however, the users' efforts to avoid those centers will be appreciated.

Written approval must be obtained from the FAA before slots may be used. The FAA anticipates that properly documented exchange requests will be approved within 2 weeks of the receipt of a request.

The FAA will continue to evaluate the slot transfer policy to determine whether changes are warranted before July 1, 1983. Any further comments on the matter should be directed to Docket No. 22050.

All interested parties are again reminded that a slot is a temporary creation of FAA emergency regulations and does not confer on any carrier a long-term right. Slots can be taken from any carrier in accordance with the terms of the existing SFAR or any amendments to it. Moreover, the FAA does not guarantee that slots will be required at any airport for any particular period of time. As soon as possible, the FAA intends to relieve the carriers from the requirement of obtaining slots.

Carriers are reminded that by "Notice of Suspension of Policy," issued on July 6, 1982, the FAA terminated all authority to sell slots. That prohibition continues.

In addition, carriers are allowed to transfer slots from any controlled airport to any other airport within the same center. There remains a prohibition on transferring non-controlled airport slots to controlled airports.

### Change of Controlled Airports and Centers

Washington National Airport is no longer considered to be a controlled airport under the Interim Operations Plan. Allocation of slots at National will be accomplished in accordance with the High Density Rule (14 CFR, Part 93, Subpart K). The FAA expects that the Scheduling Committees will handle hourly allocations there.

In addition, flights within and between the Seattle and Salt Lake Centers no longer need slots. However, operations to one of those two centers originating outside of either center must have a slot for the arrival airport.

### Joint Ownership

A number of questions have arisen during past slot allocations concerning whether corporately related carriers are entitled to select slots as separate entities. A rule which

would allow carriers to form separate entities solely to obtain slots would create enormous inequities. Therefore, some control of this type of arrangement is necessary. Air carriers that function as one entity will be considered to be a single air carrier. To accomplish this, if an air carrier has more than 50 percent ownership or control of one or more other air carriers, the carriers will be considered to be a single air carrier for slot selection purposes. Similarly, if two carriers merge, they will be considered to be one carrier. In order to prevent carriers from creating a holding company or similar corporate mechanism to avoid this limitation, an additional restriction is applied to newly created corporate structures. Therefore, if a single company should be created with more than 50 percent ownership or control of two or more air carriers or a company should obtain such control or ownership, the air carriers owned or controlled will be considered to be a single air carrier for slot selection purposes.

Immediate Adoption of Rule

Those carriers affected by this rule have almost uniformly expressed a desire to obtain additional slots as early as possible prior to the scheduling period to facilitate their flight scheduling. Because of this, expedited action is essential and good cause exists for making this rule effective immediately.

Adoption of the Rule

Chapter I of Title 14 of the Code of Federal Regulations is amended effective August 12, 1982.

1. Special Federal Aviation Regulation 44-3 is rescinded.
2. A new Special Federal Aviation Regulation 44-5 is issued.

(Secs. 307(a) and (c), 313(a), and 601(a), Federal Aviation Act of 1958, as amended (49 U.S.C. Sections 1348(a) and (c), 1354(a), and 1421(a)); Sec. 6(c), Department of Transportation Act (49 U.S.C. Section 1655(c)).)

NOTE: The FAA has determined that this proposal will expand the number of carriers eligible for a limited number of priority slots at various airports within the contiguous United States without affecting the number of slots currently held by any carrier. There are no apparent direct or indirect (non-industry) costs associated with the amendment, and the FAA is unaware of any specific data to indicate that these amendments would have more than a minimal economic impact. Therefore, the preparation of a full regulatory evaluation is unnecessary.

Based on the above, it has been determined that this is not a major regulation under Executive Order 12291 and I certify that, under the criteria of the Regulatory Flexibility Act, the proposed rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. In addition, the FAA has determined that this amendment is not significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

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## Special Federal Aviation Regulation 44-5
## Air Traffic Control System Interim Operations Plan
**Adopted: September 27, 1982** **Effective: September 27, 1982**

(Published in 47 FR 43278, September 30, 1982)

SUMMARY: This amendment to Special Federal Aviation Regulation (SFAR) No. 44-5, which established procedures to be used in the allocation of additional air traffic system capacity as it becomes available, makes adjustments to the procedures utilized for allocation of slots. It changes the time periods in which carriers must select slots as well as establishing "passing" procedures. The amendment is necessary to respond to problems and questions that arose during the slot selection session.

ADDRESSES: Send comments on the rule in duplicate to:

Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC-204), Docket No. 22050, 800 Independence Avenue, S.W., Washington, D.C. 20591.

or deliver them to:

800 Independence Avenue, S.W.
Room 915G
Washington, D.C.

Comments may be examined in the Rules Docket, weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT:

Edward P. Faberman
Deputy Chief Counsel
202-426-3775

or

Thomas P. Messier
Deputy Director, Office of Aviation Policy and Plans
202-426-0583

Federal Aviation Administration
800 Independence Avenue, S.W.
Washington, D.C. 20591

SUPPLEMENTARY INFORMATION:

### Comments Invited

Although this is issued as a final rule, comments are invited on the amendment. Comments relating to the environmental, energy, or economic impacts that might result from adoption of the proposals contained in this notice are invited. Communications should identify the regulatory docket and be submitted in duplicate to the address above. All communications received will be considered by the Administrator on a continuing basis. The requirements contained in this amendment may be changed in the light of comments received. All comments submitted will be available in the Rules Docket for examination by interested persons. A report summarizing each substantive public contact with FAA personnel concerned with the rulemaking will be filed in the docket. Commenters wishing to have the FAA acknowledge receipt of their comments must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 22050." The postcard will be dated, time-stamped, and returned to the commenter.

### Background and Discussion

On August 9, 1982, the FAA issued SFAR 44-5 (47 FR 35156; August 12, 1982) which established procedures to be used in the allocation of additional air traffic system capacity as it becomes available. The amendment established a slot selection system which allowed carriers to choose slots they desire from those available during a slot selection session.

On August 20, 1982, the FAA conducted a random draw to determine the order of selection for all future allocation periods. On August 25–26, 1982, the agency held a slot selection session. During that session, a number of questions were raised concerning the slot selection procedures. As a result of these questions and other issues that have arisen since issuance of SFAR 44–5, it is necessary to adjust the existing procedures prior to the next scheduled slot selection session.

### 5-Minute Selection Requirement

Under SFAR 44–5, a carrier is required to make its slot selection within 5 minutes after its turn is called or it will lose its turn. At the August slot selection session, there were a number of carriers which did not make selections. These carriers either did not appear at the session or left the session after an early sequence. Because of the 5-minute requirement, the session was interrupted for 5 minutes for each missing carrier to see if that carrier was, in fact, participating in the session. Since this occurred numerous times, a great deal of time was wasted. To rectify this, the 5-minute requirement is amended. A carrier still has 5 minutes to make its selection. However, if the carrier is not prepared to make its selection within 1 minute after its turn is called, it must answer "present." If the carrier does not answer "present" within 1 minute after its turn is called, the carrier will lose its turn in that round. If the carrier answers "present," it still must make its slot selection within a total of 5 minutes after its turn is called.

### New Entrant Definition

SFAR 44–5 defines "new entrant" as a carrier that is not operating at any airport on or before August 1, 1982, has appropriate Civil Aeronautics Board (CAB) authority, and has applied for an FAA certificate. An unanswered question was—"At what point can a 'new entrant' be added to the priority selection list?"

In determining when an applicant has applied for an FAA certificate, the agency has stated the following:

A formal application for a certificate is not complete or considered submitted until the applicant has presented to the FAA District Office such items including the following:

1. Compliance statement.
2. Aircraft operating manuals.
3. Company operating manuals.
4. Training programs.
5. Maintenance programs.
6. Schedule of events, such as:
   (a) Proving runs;
   (b) Aircraft deliveries;
   (c) Training complete dates;
   (d) Emergency evacuation demonstration; and
   (e) First revenue trip.

By submitting this information (if carrier has met other criteria) the carrier would be considered as a new entrant and thus would be able to obtain slots. The FAA recognizes, however, that it is not necessarily equitable to require a new entrant to complete submission of all such material before it can be added to the selection list. Therefore, the agency will allow an applicant to be added to the priority list if it has an appropriate CAB certificate, has not operated at any airport on or before August 1, 1982, and has submitted at least one of the six categories of documentation listed above. Although the applicant will be added to the priority list, it will not be able to select slots until it has submitted all the required information as listed above. Such an applicant cannot trade its selection position.

### Use or Lose Provision

SFAR 44-5 states that slots that a carrier does not actually use at least 57 percent of the schedule period will be automatically revoked. This means that slots must be utilized on an average of 4 days per week. The FAA believes that there is one situation in which it is appropriate to provide some relief from this requirement. This area involves carriers that only operate a seasonal operation a few days a week or for a part of a schedule period. An example of this would be a situation in which a carrier operates Thursday, Friday and Saturday flights into Denver during the winter months. The carrier has a slot which it wishes to dedicate to this operation. The slot is operated every January-March. It will obviously not use the slot 57 percent of the schedule period. This limited number of seasonal carriers should be able to obtain some relief from the use or lose provision. Thus, if a carrier wishes to use a slot for a seasonal operation (carrier has the burden of showing that that operation has been historically seasonal) for less than 57 percent of the schedule period, the carrier can obtain a written waiver from this provision from the Associate Administrator for Policy and International Aviation (API-1). To obtain the waiver, the carrier must submit, in writing, the following information:

1. The slot or slots in question;
2. The operation for which the slot will be utilized;
3. The number of days in which the operation will be conducted; and
4. The basis for which the operation is considered to be historically seasonal.

If this information is acceptable, API-1 will provide the carrier with a written waiver which will allow the carrier to operate the particular slot less than 57 percent of the schedule period. The FAA will submit the remaining days not in use to the Central Flow Control facility to allow the slot to be used for charter and extra sections during the remainder of the unused schedule period.

Carriers are reminded that if they wish to obtain slots for 1 or 2 days a week, they must obtain those slots directly from Central Flow Control as available.

### Trade of Slots

SFAR 44-5 reminded carriers that the prohibition against selling slots was continued. To verify that slots involved in a trade were not involved in a sale, the agency believes it appropriate for the carrier obtaining the slot to make an affirmative statement that the transaction did not involve consideration other than slots. Thus, such a statement must be submitted to API-1 in accordance with any request for approval for any trade of slots or position in the slot selection process by a principal of that airline. The FAA's policy on trade of slots has been approved by the Office of Management and Budget through June 30, 1982.

### Passing

SFAR 44-5 provides for "passing." An air carrier deciding not to select slots may advise the FAA, prior to that carrier's first opportunity to select slots, that it will "pass." If a carrier passes from one session to the next, it will be placed at the top of the appropriate pass list for the next selection session.

One question that arose during the first slot selection was whether an impacted incumbent could pass. The answer to that question is yes. An impacted incumbent may pass its two "impacted" selections from one selection session to the next. An impacted incumbent who elects to pass will be placed on the "impacted incumbent pass list" for the next session. Impacted incumbents are reminded that they do not have to select slots as an impacted incumbent and, instead, may defer their selection until they come up in the regular selection order.

In this connection, carriers are reminded that during any slot selection sequence after their turn is called, they may defer without passing. This means that they will not select a slot during that sequence but may select a slot in a later sequence. A carrier that defers remains in the same selection position.

One additional clarification is necessary in connection with "passing." The order of sequence carriers held when they passed will determine the order in which they will select slots in the next session. This eliminates any race to pass by hand-delivering a "pass" notice to the FAA. The rule has been changed accordingly.

### Seasonal Operations

There are a number of carriers which conduct operations during a limited time period that are considered to be seasonal operations. These operations are often to resort areas during either the winter or summer months. The FAA acknowledges that there must be some adjustments to the slot base of these carriers to allow them to continue operations which they have historically flown. In some situations a carrier will actually cease the operation after the summer and will operate elsewhere in the winter. If a carrier is not permitted to obtain slots for such seasonal operations, it may not be able to continue in business. Therefore, the FAA will, in certain cases, adjust a carrier's base if that carrier establishes that an adjustment is necessary for it to conduct a seasonal operation which it has historically operated. In accomplishing this, the following factors will be considered: (1) The slots necessary to conduct the seasonal operation; (2) Whether the operation has been flown at least one previous year; (3) The seasonal operation is for a continuous period of six months or less; (4) A carrier no longer has in its base slots used for this seasonal operation; (5) The seasonal operation is a major part of the carrier's overall operation; (6) The carrier has fewer slots in its base at the airport at which the seasonal operation is proposed than it did when the seasonal operation was previously conducted, adjusted to take into account any slots the carrier may have sold or traded.

A carrier which has a significant number of slots will not be given seasonal slots. The intent of this provision is to allow the agency to increase the base of a carrier which is dependent upon a seasonal operation. If a carrier does meet the above criteria every attempt made will accommodate the carrier without lessening the number of slots available at the slot selection session.

SFAR 44-5 requires air carriers to submit charter, extra section, emergency, ferry, pilot training, and mechanical repair checkout flight requests to the FAA Central Flow Control Facility. The number of these types of operations has remained consistent during the past several months. These operations are conducted throughout the day at many airports. The total number of such flights does not place a burden on the system. Therefore, the FAA is removing the need to obtain any slot authority for non-passenger ferry flights, pilot training, and mechanical repair checkout operations. It will still be necessary to obtain Central Flow approval for charter and extra section operations.

This action is consistent with a petition for rulemaking dated September 2, 1982, by the Air Transport Association of America. The other proposals contained in their petition will not be acted upon at this time, but will be considered as part of the agency's continued review of the system.

The agency will closely monitor operations under this amendment. If this authority is not strictly adhered to, the agency will reconsider this change.

### Change of Controlled Airports and Centers

Effective September 21, 1982, flights within the Washington Center no longer need slots. However, an operation to an airport within the Washington Center from an airport outside of the Center, e.g., from JFK to BWI still requires a slot at the arrival airport, in this case BWI.

### Immediate Adoption of Rule

This rule involves a number of procedural changes to existing allocation procedures which are necessary to clarify those procedures. It is necessary for these changes to be made before the next slot selection. Therefore, I find that further notice and public procedure thereon are impracticable and contrary to the public interest. I further find that

good cause exists for making this regulation effective in less than 30 days after its publication in the FEDERAL REGISTER.

Adoption of the Rule

The Appendix to Special Federal Aviation Regulation 44-5 in Chapter I of Title 14 of the Code of Federal Regulations is amended effective September 27, 1982.

(Secs. 307(a) and (c), 313(a), and 601(a), Federal Aviation Act of 1958, as amended (49 U.S.C. Sections 1348(a) and (c), 1354(a), and 1421(a)); Sec. 6(c), Department of Transportation Act (49 U.S.C. Section 1655(c)).)

NOTE: The FAA has determined that this rule is only a clarifying amendment in that it adjusts the procedures utilized during the slot selection process. It is consistent with previous interpretations given at the selection sessions. There are no apparent direct or indirect (non-industry) costs associated with the amendment. Therefore, the preparation of a regulatory evaluation is unnecessary.

Based on the above, it has been determined that this is not a major regulation under Executive Order 12291 and I certify that, under the criteria of the Regulatory Flexibility Act, the rule will not have a significant economic impact on a substantial number of small entities. In addition, the FAA has determined that this amendment is not significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

## Special Federal Aviation Regulation 44-5

## Air Traffic Control System Interim Operations Plan

1. Each person shall, before conducting any operation under the Federal Aviation Regulations (14 CFR Chapter I), familiarize himself with all Notices to Airmen issued under § 91.100; when activated, with the provisions of the National Air Traffic Control Contingency Plan (FAA Order 7110.86), available for inspection at operating Air Traffic facilities and Regional Air Traffic Division Offices; and with all other available information concerning that operation.

2. Notwithstanding any provision of the Federal Aviation Regulations to the contrary, no person may operate an aircraft in the airspace under the jurisdiction of the United States—

(a) Contrary to any restriction, prohibition, procedure or other action specified in this Special Federal Aviation Regulation (SFAR) or specified by the Director of the Air Traffic Service pursuant to paragraph 3 of this regulation and announced in a Notice to Airmen pursuant to § 91.100 of the Federal Aviation Regulations; or

(b) If the National Air Traffic Control Contingency Plan is activated pursuant to paragraph 5 of this regulation, except in accordance with the pertinent provisions of the Contingency Plan (FAA Order 7110.86, dated February 27, 1981, as amended by Errata Change issued March 10, 1981, Errata Change No. 2 issued March 18, 1981, and Errata Change No. 3 issued June 19, 1981).

3. As conditions warrant or until activation of the National Air Traffic Control Contingency Plan (Phase III), the Director of the Air Traffic Service is authorized to—

(a) Restrict, prohibit or permit VFR and/or IFR operations at any airport, Terminal Control Area or other terminal and enroute airspace (subject to any restrictions and limitations imposed under paragraph 4 of this regulation);

(b) Give priority at any airport to flights that are military necessities, medical emergency flights, Presidential flights, and flights transporting critical Federal Aviation Administration employees; and

(c) Implement at any airport or within enroute airspace flow control management procedures, including reduction of flight operations. Reduction of flight operations shall, to the extent feasible, be made pro rata among and between air carrier, commercial operator, and general aviation operations.

4. As conditions warrant or until activation of the National Air Traffic Control Contingency Plan (Phase III), API-1 is authorized to implement reductions in air carrier schedules in accordance with the Appendix to this regulation, as air traffic capacity requires, if operations at an airport cannot be safely and efficiently handled by the controller work force at the air traffic control facilities involved, and limit the number of daily and hourly operations of an air carrier at any airport.

5. If the actions taken in accordance with paragraphs 3 and 4 of this regulation do not provide for the orderly movement of air traffic, the Director of the Air Traffic Service may activate the National Air Traffic Control Contingency Plan (Phase III).

6. Upon activation of the National Air Traffic Control Contingency Plan (Phase III) and notwithstanding any provision of the Federal Aviation Regulations to the contrary, the Director of the Air Traffic Service is authorized to suspend or modify any airspace designation (or chart).

7. All restrictions, prohibitions, and procedures established, and other actions taken by the Director of the Air Traffic Service under this regulation with respect to the operation of the Air Traffic Control System will be announced in Notices to Airmen issued pursuant to § 91.100 of the Federal Aviation Regulations.

8. The Director of the Air Traffic Service and API-1 may delegate their authorities under this regulation to the extent they consider necessary for the safe and efficient operation of the National Air Traffic Control System.

## Appendix To SFAR 44-5

## Arrival Approvals for Designated Airports

1. For operations after October 30, 1982—

(a) Except as modified pursuant to paragraph 2 of this Appendix:

(i) The number of daily arrival operations an air carrier may schedule or operate at a controlled airport (as identified in this Appendix) shall not exceed its FAA-approved daily and hourly allocation total at that airport for the previous schedule period; and

(ii) The number of daily arrival operations an air carrier may schedule or operate at any other airport shall not exceed its FAA-approved daily allocation total at that individual airport for the previous schedule period.

(b) Each air carrier that desires to take part in the selection session for additional slots must notify, in writing, the Office of the Chief Counsel, Docket Section, AGC–204, 800 Independence Avenue, S.W., Washington, D.C. 20591. The notification must be received not later than 72 hours before the beginning of the slot selection session (for the first session, notification must be received by 5:00 p.m. on August 17, 1980). The notification shall state the schedule period for which the air carrier desires slots and shall identify the individual or individuals who will represent the carrier in the slot selection session. Once a notification is submitted for one schedule period, additional notification need not be submitted unless the carrier changes its representatives.

(c) Slots allocated in accordance with SFAR 44–4 shall be considered to have been allocated under this Appendix.

2. Additional capacity allocation.

(a) Unless directed by the CAB (in cases of essential air service or to satisfy some other CAB requirement) or unless the FAA determines that a carrier has exceeded the number of operations allowed by this regulation, a carrier will not be required to give up slots for another carrier's use. However, slots that a carrier does not actually use at least 57 percent of the schedule period will be automatically revoked. Upon a showing by the carrier that an operation is historically seasonal, API–1 may grant a waiver from the 57-percent requirement.

(b) For the purposes of additional capacity allocations under this SFAR: (1) An air carrier that was operating at one of the 21 controlled airports listed at the end of this Appendix on August 1, 1982, is an "incumbent" at that airport; and (2) an air carrier that is not operating at any airport on or before August 1, 1982, has appropriate Civil Aeronautics Board authority, and has applied for an FAA certificate, is a new entrant. If an air carrier has more than a 50-percent ownership or control of one or more other air carriers, the carriers shall be considered to be a single air carrier under this Appendix. In addition, if after August 10, 1982, a single company obtains more than 50 percent ownership or control of two or more air carriers, those air carriers shall be considered to be a single air carrier under this Appendix.

(c) A random drawing will be held on August 20, 1982, to determine the order of selection for all future allocation periods. Included in the drawing will be all air carriers that have designated a representative in accordance with paragraph 1(b) of this Appendix. A carrier which asks to be included in a slot selection session after the draw is held will be added to the end of the selection list. The slots to be awarded through this process are only for scheduled service.

Slots for charter operations will be allocated in accordance with paragraph 4 of this Appendix.

(d) Approximately 55 days before the beginning of a schedule period, the FAA will conduct a slot selection session to determine which air carriers will obtain new slots to be added to the system for that particular schedule period. The approximate number and time of the slots will be announced by the FAA at least 7 days before the slot selection session.

(e) At the slot selection session, subsequent to any allocation specified under paragraph (f) of this Appendix, air carriers may select slots from any controlled airport or center in the order established under paragraph (c) of this paragraph. A carrier must answer "present" or make its selections within 1 minute or it will lose its turn. If it answers "present," the carrier must make its selection within 5 minutes total after its turn is called or it will lose its turn. If capacity still remains after each air carrier on the selection list has had an opportunity to select slots, the allocation sequence will be repeated in the same order. An air carrier may select any two slots available during each sequence, except in the first sequence of each session during which the number of slots an air carrier may select is as follows:

| | |
|---|---|
| Air carriers operating two or more slots on August 1, 1982 at each of 0–5 controlled airports. | 2 slots |
| Air carriers operating two or more slots on August 1, 1982 at each of 6–21 controlled airports. | 4 slots |
| Air carriers defined as new entrants. | 4 slots |

An air carrier selecting a slot in an ARTCC shall, at the time of selection, identify the airport within the ARTCC to which the carrier will operate.

An air carrier deciding not to select slots in a particular session must advise the FAA that it has decided to pass before it has selected any slot during that session. Any air carrier "passing" will be given selection priority at the next slot selection session and will remain in that position in future sessions. A carrier cannot pass in consecutive sessions, except for new entrants that may pass in two consecutive sessions. If a carrier does not use its priority selection in the next slot selection session, it will lose that priority selection. A carrier not passing and deciding not to select slots in a particular sequence may "defer" selection in that sequence.

(f) *Impacted Carrier Allocation.* Each incumbent carrier which at the time of the slot selection session has in its base at least 5 fewer slots at the controlled airports[1] than in its September 1, 1981 OAG base will be given a priority during the slot selection process. A Carrier that qualifies to obtain these incumbent priority slots, may select two slots from those available at any controlled airport at which it is below its September 1981 base before any other carrier makes a selection. If more than one carrier qualifies for priority under this paragraph, the order of selection will be based on the number of slots the qualifying carriers are below their September 1, 1981 base, those with the highest numbers selecting first. A carrier selecting a slot under this provision will have an equivalent number of slots subtracted from the number it is otherwise eligible to select during the first slot selection sequence under paragraph (e). For the purposes of this section, a carrier's September 1, 1981 base will be adjusted downward to reflect slots which it has sold, traded (unless traded for identical number of slots), or released. This subparagraph does not

[1] There are 21 controlled airports identified in the attachment to this Appendix. Washington National Airport is no longer considered a controlled airport.

apply to cargo operators. Slots selected under this paragraph may not exceed 30 percent of the new/additional slots available at any controlled airport. Slots selected under the provisions of this paragraph may not be traded.

After the first slot selection session, the order for slot selection will be as follows: (1) Impacted incumbents that "passed" their "impacted incumbent" selections in the previous slot selection session in the order in which they were listed as impacted; (2) impacted incumbents; (3) carriers that "passed" in the previous slot selection section in the order in which they were listed in the selection list; and (4) the carrier following the last carrier to make a slot selection in the previous session.

(g) An air carrier slot allocated at a controlled airport must be used only during the hour in which the slot was assigned at the particular controlled airport. Center slots allocated to an air carrier at a non-controlled airport may be used at any hour at that particular airport and may be transferred to any non-controlled airport in the same ARTCC if written approval is received from API–1.

(h) If Braniff notifies the FAA, in writing, prior to September 15, 1983, that it has obtained the necessary legal approvals to begin operations by November 15, 1983, and if that operation is approved by the Administrator, then Braniff will be allocated the 53 slots withheld from the June 28 slot allocation session. If Braniff does not provide that notice by September 15 or if the Administrator determines that Braniff will not be able to operate by November 15, an allocation will be held to allocate the slots.

3. No new/additional flight requests for changes will be accepted by the FAA between schedule periods except for requests for arrival approvals between 12:01 a.m. and 4:59 a.m., local time. These requests and changes to flight schedules between schedule periods for flight number changes, within hour changes at the same controlled airports (as identified in this Appendix), and hourly changes within the allocated daily total at all other airports will be processed in the order received. Such requests must be sent to API–1.

4. Charter and extra section flight requests shall be made to the FAA Central Flow Control Facility. Non-passenger ferry flights, pilot training and mechanical repair checkout operations may be conducted notwithstanding the limitations contained in this SFAR. Written requests for charter operations may be made to Central Flow Control up to 70 days in advance of the scheduling period in which the operation is proposed.

5. No person shall operate an air carrier flight unless approval for the operation has been reviewed prior to the flight by API–1 as part of the particular air carrier's approved schedule or under paragraph 1, 2, 3, or 4 of this Appendix, or in accordance with paragraph 5 of this Appendix.

6. Airports and Air Route Traffic Control Centers at which some constraints are necessary are listed below. This listing also shows those airports in which additional capacity will be available through October 30, 1982. Constraints may also be imposed at airports other than those listed if any changes in the current status of an airport cannot be safely and efficiently handled by the controller work force at the ATC facilities involved. Schedule reductions in effect at an airport may be revised and will be removed to the extent the controller work force at the ATC facilities involved can accommodate those changes.

Individuals interested in obtaining a list of expected capacity at centers and controlled airports may contact:

Marvin Olson
Chief, Aviation Education & Consultative Planning Branch
Office of Aviation Policy and Plans
Federal Aviation Administration
800 Independence Avenue, S.W.
Washington, D.C. 20591
(202-426-8444)

## Special Federal Aviation Regulation 44-6
## Air Traffic Control System Interim Operations Plan

**Adopted: December 10, 1982** **Effective: December 10, 1982**

(Published in 47 FR 56324, December 16, 1982)

SUMMARY: This Special Federal Aviation Regulation (SFAR) sets forth the procedures for allocation of arrival slots previously allocated which have been returned to the FAA for distribution. Some of these slots were allocated to Altair Airlines. This amendment provides for a distribution in accordance with priority order established under SFAR 44-5 for allocation of available capacity at various airports within the contiguous United States. This amendment is necessary to assure the efficient utilization of the navigable airspace in light of the availability of these slots.

FOR FURTHER INFORMATION CONTACT:

Edward P. Faberman
Deputy Chief Counsel
Telephone: (202) 426-3773

or

Thomas P. Messier
Deputy Director, Office of Aviation
Policy and Plans
Telephone: (202) 426-0583

Federal Aviation Administration
800 Independence Avenue, S.W.
Washington, D.C. 20591

Comments are invited on this SFAR.

ADDRESS: Send comments on the rule in duplicate to:

Federal Aviation Administration
Office of the Chief Counsel
Attn: Rules Docket (AGC-204), Docket No. 22050
800 Independence Avenue, S.W.
Washington, D.C. 20591

Comments may be examined in the Rules Docket, weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

SUPPLEMENTARY INFORMATION:

Comments Invited

Although this amendment is in the form of an emergency final rule which concerns the safe and efficient use of airspace throughout the United States and, thus, is not preceded by a notice of proposed rulemaking, comments are invited on this Special Federal Aviation Regulation.

The FAA invites comments on the procedures contained in this regulation. Comments are specifically invited on any aspects of the operation of the Air Traffic Control system under this amendment that suggest a need to modify the regulation, or which should be considered should additional procedures be necessary. Comments received will be reviewed on a continuing basis and this amendment may be changed in the light of comments received. Commenters wishing the FAA to acknowledge receipt of their comments in response to this rule must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 22050." The postcard will be date/time stamped and returned to the commenter.

Background

During approximately the last 15 months, the FAA has allocated arrival slots at all airports within the contiguous United States in accordance with promulgated regulations. Under these regulations, an air carrier may not schedule or operate arrival operations in excess of its approved level.

The rules contain a Use of Lose Provision. The provision is based upon operation of 57 percent of the schedule period. Slots not utilized for this period of time are revoked.

During the past several weeks, a number of slots have been revoked under this provision. In addition, Altair Airlines has ceased operation. Finally, some slots have been returned by carriers which have not been able to utilize them.

As a result of this, there is a number of slots which are currently not being utilized. Some of these slots are at congested airports. The next regularly scheduled slot allocation session will not be held until February 1–2, 1983, for the April 24–May 30 schedule period. The FAA recognizes that a number of carriers could use these slots immediately and that delaying allocation of them for 60 days could deprive carriers of needed authority and could deprive the public of necessary service.

For these reasons, the FAA is creating a mechanism for immediate allocation of these slots.

The special allocation will take place on December 22, 1982, at 9:00 a.m. in the FAA Auditorium, Third Floor, at 800 Independence Avenue, S.W., Washington, D.C. A carrier wishing to obtain any of the available slots (as listed in the Appendix to this SFAR) may select slots at this special session.

All parties are advised that the listing of available slots in the Appendix to this SFAR may be modified on the day of the slot session to include additional slots if they become available.

The order in which this additional capacity will be allocated will be as followed:

(1) Carriers that "passed" in the previous slot selection session in the order they passed.

(2) The carrier following the last carrier to make a slot selection in the previous session.

On December 22, carriers will be called in this order. Carriers which are present at the session and decide to select slots will be allocated slots. Carriers will be eligible to select slots in accordance with paragraph 2(e) of the Appendix to SFAR 44–5. A carrier selecting slots on December 22 will be treated as though it had made those selections at the next scheduled slot allocation session.

As to the arrival slots previously allocated to Altair Airlines, Inc., those slots are allocated on a temporary basis only subject to revocation. The slots are for up to a 120-day period only. During that time, Altair's Chapter 11 proceedings will be closely monitored.

If Altair does again operate, then the slots necessary for continued Altair operations will be returned to Altair. The carriers should be able to use these slots for 120 days, but all parties are put on notice that the award of these slots may be revoked upon 24-hour notice. Carriers should not apply for these slots unless they will be in a position to operate under these conditions. At no later than the end of that 120-day period, this temporary approval may be extended or a longer term allocation procedure for the particular slots may be promulgated.

Carriers may ultilize slots allocated under this SFAR immediately. They are reminded that all slots allocated under this SFAR must be used at least 57 percent of the period from February 15 to April 23 or they will be automatically revoked. After April 23, they must be used in accordance with paragraph 2(a) of the Appendix 44–5.

All carriers are reminded that slots are temporary creations of FAA emergency regulations and do not confer on any carrier a long-term right. Slots can be taken away from any carrier in accordance with the terms of any applicable regulation.

All future submissions made to the FAA shall separately identify Altair slots by the designator "PH."

The following demonstrates how the allocation on December 22, 1982 will work:

| (a) Carriers | Slot Eligibility |
|---|---|
| F (paased in previous session) | 2 |
| L (new entrant) | 4 |
| A (operates at 12 controlled airports) | 4 |

(b) On December 22, carriers select as follows:

| Carriers | Passing Carriers | 1st Sequence | 2nd Sequence | 3rd Sequence |
|---|---|---|---|---|
| F | 2 | 2 | 2 | — |
| L | | 4 | — | — |
| A | | 4 | 2 | 2 |

(c) At next sequence—

Carrier F = Lost status as "passing" carrier and will not be able to select slots until 3rd sequence.

Carrier L = Will not be able to select slots until 2nd sequence.

Carrier A = Will not be able to select slots until 3rd sequence.

A carrier which selects slots on December 22 cannot "pass" at the next slot selection session.

Only carriers which were eligible to select slots at the last session are eligible to select slots on December 22.

The basic rules and orders necessary for operation under the Interim Operations Plan will continue to be disseminated, in accordance with section 91.100 of the Federal Aviation Regulations, by Notices to Airmen (NOTAM).

This SFAR does not change the procedures contained in SFAR 44-5 for the allocation of slots during the allocation periods set forth in that SFAR.

The continued operation of the National Air Traffic System in a safe and efficient manner requires the immediate adoption of this regulation in the public interest. Therefore, I find that further notice and public procedure thereon are impracticable and contrary to the public interest. I further find that good cause exists for making this regulation effective in less than 30 days after its publication in the *Federal Register*.

Adoption of the Rule

Accordingly, 14 CFR Part 91 is amended by issuing Special Federal Aviation Regulation No. 44-6 effective December 10, 1982.

(Secs. 307(a) and (c), 313(a), and 601(a), Federal Aviation Act of 1958, as amended (49 U.S.C. Sections 1348(a) and (c), 1354(a), and 1421(a)); Section 6(c), Department of Transportation Act (49 U.S.C. Section 1655(c)).)

NOTE: The FAA has determined that this rule is an emergency regulation under the provisions of Section 8 of Executive Order 12291 and the Department's Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). It is impracticable for the FAA to follow the procedures of Executive Order 12291 applicable to regulations not issued in response to emegency situations because the safety and efficiency of the national air transportation system and the public interest require immediate implementation of the rule. Voluntary compliance with this regulation is expected. If this action is subsequently determined to involve a significant regulation, a final regulatory evaluation or analysis will be prepared and placed in the regulatory docket (otherwise, an evaluation is not required). A copy of it, when filed, may be obtained by contacting the persons identified under the caption "FOR FURTHER INFORMATION CONTACT."

## Special Federal Aviation Regulation 44-6

1. For arrival slots to be allocated on December 22, 1982—

(a) Each air carrier seeking authority for slots available in this special allocation as identified in the Appendix to this SFAR shall have its representative (as designated in accordance with paragraph 1(b) of the Appendix to SFAR 44-5) attend a special slot allocation session in the FAA Auditorium, Third Floor, at 800 Independence Avenue, S.W., Washington, D.C., on December 22, 1982.

2. On December 22, a special slot allocation session will be held. The order of slot selection at this special session will be as follows:

(a) Carriers that "passed" in the previous slot selection session in the order they passed.

(b) The carrier following the last carrier to make a slot selection in the previous session.

3. As a carrier's name is called in accordance with the priority set forth in paragraph 2, a carrier will be entitled to select slots in accordance with paragraph 2(e) of the Appendix to SFAR 44-5. If a carrier representative appears at the session, it may select slots available. A carrier will only be called for selection if it has registered at the session. A carrier must answer "present" or make its selection within 1 minute or it will lose its turn. If it answers "present," the carrier must make its selection within 5 minutes total after its turn is called or it will lose its turn. If capacity still remains after each air carrier on the selection list has had an opportunity to select slots, the allocation sequence will be repeated in the same order.

4. A carrier selecting slots under this SFAR shall be determined to "defer" an identical number of selections at the next slot allocation session. A carrier selecting slots under this SFAR cannot "pass" at the next slot selection session.

5. The slots allocated under this SFAR which were previously allocated to Altair Airlines will be for a period of up to 120 days from December 22, 1982, and may be cancelled by the FAA at the end of that 120-day period or during that period upon 24-hour notice. The temporary approval for these slots may be extended at the discretion of the Administrator. In all future submissions to the FAA, these slots shall be designated by the letters "PH".

6. All arrival slots allocated in accordance with this SFAR may be used immediately but must be used at least 57 percent of the period February 15 to April 23 or they will be automatically revoked.

7. No new/additional flight requests for changes will be accepted by the FAA in a submittal made in accordance with this SFAR.

8. No person shall operate an air carrier flight unless approval for the operation has been received in writing prior to the flight by the Associate Administrator for Policy and International Aviation (API-I) as part of the particular air carrier's approved schedule, under SFAR 44-5, or in accordance with the Appendix.

## Appendix to SFAR 44-6 Issued December 10, 1982

ARRIVAL SLOTS AVAILABLE WITHIN FAA CENTERS
EFFECTIVE DECEMBER 22, 1982

| *ARTCC* | *SLOTS* * |
|---|---|
| Albuquerque [1] | 17 |
| Atlanta [1] | 12 (8) |
| Boston | 11 (5) |
| Chicago | 8 |
| Cleveland | 16 (8) |
| Denver | 5 |
| Ft. Worth | 14 |
| Houston | 7 |
| Indianapolis | 3 |
| Jacksonville [1] | 13 (10) |
| Kansas City [1] | 7 |
| Los Angeles [1] | 23 |
| Memphis [1] | 7 (3) |
| Miami | 18 (6) |
| Minneapolis | 11 |
| New York | 52 |
| Oakland | 13 |
| Salt Lake City [1] | 0 |
| Seattle [1] | 5 |
| Washington [1] | 26 (10) |
| TOTAL | 273 |

* Numbers shown in parenthesis are Altair slots subject to return to FAA in accordance with provisions in SFAR 44-6.

[1] Flights between two airports each of which are located within this center no longer require slots. Flights from outside the center to an airport within the center still requires a slot. Please note that flights between any airports within either the Seattle or Salt Lake City centers no longer require slots.

Example: PDX-SEA—no slot required

SEA-SLC—no slot required

ORD-SEA—Seattle Center slot required

Note 1: Flights into ATL/LAS/LAX or STL still require a slot.

Note 2: Kansas City International Airport (MCI) is no longer capacity controlled for flights from airports within Kansas City Center. Flights to MCI from outside Kansas City Center require a Center slot.

Note 3: Flights into and out of DCA must be accomplished in accordance with the High Density Rule (14 CFR, Part 93, Subpart K).

Note 4: FAA/API-I approval of flights between airports within the Los Angeles Center will no longer be required effective 0001 PST January 10, 1982.

## ARRIVAL SLOTS AVAILABLE AT CAPACITY CONTROLLED AIRPORTS EFFECTIVE DECEMBER 22, 1982

| *Airport* | *Available Slots* |
|---|---|
| Atlanta (ATL) | 15 slots |
| | 0200–0259 z–1 slot |
| | 0500–0559 z–5 slots |
| | 0600–0659 z–1 slot |
| | 0700–0759 z–3 slots |
| | 0800–0859 z–1 slot |
| | 0900–0959 z–1 slot |
| | 1700–1759 z–1 slot |
| | 2000–2059 z–1 slot |
| | 2200–2259 z–1 slot |
| Boston (BOS) | 17 slots |
| | 0200–0259 z–1 slot [1] |
| | 0500–0559 z–3 slots |
| | 0800–0859 z–1 slot |
| | 1000–1059 z–2 slots |
| | 1100–1159 z–2 slots |
| | 1200–1259 z–1 slot |
| | 1200–1259 z–1 slot [1] |
| | 1500–1559 z–1 slot |
| | 1600–1659 z–1 slot |
| | 1600–1659 z–1 slot [1] |
| | 1800–1859 z–1 slot |
| | 2100–2159 z–1 slot [1] |
| | 2200–2259 z–1 slot |
| Cleveland (CLE) | 2 slots |
| | 2000–2059 z–1 slot |
| | 2100–2159 z–1 slot |
| Denver (DEN) | 6 slots |
| | 0500–0559 z–1 slot |
| | 0700–0759 z–2 slots |
| | 1200–1259 z–1 slot |
| | 1900–1959 z–1 slot |
| | 2100–2159 z–1 slot |
| Dallas/Ft. Worth (DFW) (Including DAL) | 18 slots |
| | 0000–0059 z–1 slot |
| | 0100–0159 z–1 slot |
| | 0200–0259 z–2 slots |
| | 0600–0659 z–3 slots |
| | 1100–1159 z–1 slot |
| | 1300–1359 z–1 slot |

[1] Altair slots subject to return to FAA in accordance with provisions in SFAR 44–6.

ARRIVAL SLOTS AVAILABLE AT CAPACITY CONTROLLED AIRPORTS
EFFECTIVE DECEMBER 22, 1982—Continued

Dallas/Ft. Worth (DFW)—Continued

| *Airport* | *Available Slots* |
|---|---|
| | 1400–1459 z—2 slots |
| | 1500–1559 z—3 slots |
| | 1900–1959 z—1 slot |
| | 2000–2059 z—1 slot |
| | 2200–2259 z—1 slot |
| | 2300–2359 z—1 slot |
| Detroit (DTW) | 3 slots |
| | 1100–1159 z—2 slots |
| | 1400–1459 z—1 slot |
| Newark (EWR) | 11 slots |
| | 0100–0159 z—1 slot |
| | 0200–0259 z—1 slot |
| | 0500–0559 z—4 slots |
| | 1000–1059 z—2 slots |
| | 1100–1159 z—2 slots |
| | 1600–1659 z—1 slot |
| Ft. Lauderdale (FLL) | 4 slots |
| | 0500–0559 z—1 slot |
| | 0700–0759 z—1 slot |
| | 2100–2129 z—1 slot |
| | 2300–2359 z—1 slot |
| Houston (IAH) (Including HOU) | 4 slots |
| | 0600–0659 z—2 slots |
| | 1500–1559 z—1 slot |
| | 1600–1659 z—1 slot |
| John F. Kennedy (JFK) | 14 slots |
| | 0000–0059 z—1 slot |
| | 0100–0159 z—1 slot |
| | 0200–0259 z—1 slot |
| | 0600–0659 z—3 slots |
| | 0700–0759 z—2 slots |
| | 0900–0959 z—1 slot |
| | 1100–1159 z—1 slot |
| | 1700–1759 z—2 slots |
| | 1800–1859 z—1 slot |
| | 1900–1959 z—1 slot |
| Las Vegas (LAS) | 23 slots |
| | 0000–0059 z—3 slots |
| | 0100–0159 z—3 slots |
| | 0200–0259 z—2 slots |

ARRIVAL SLOTS AVAILABLE AT CAPACITY CONTROLLED AIRPORTS
EFFECTIVE DECEMBER 22, 1982—Continued

Las Vegas (LAS)—Continued

| *Airport* | *Available Slots* |
|---|---|
| | 0400–0459 z—1 slot |
| | 0500–0559 z—1 slot |
| | 0800–0859 z—1 slot |
| | 1400–1459 z—1 slot |
| | 1700–1759 z—1 slot |
| | 1800–1859 z—4 slots |
| | 1900–1959 z—1 slot |
| | 2000–2059 z—1 slot |
| | 2100–2159 z—3 slots |
| | 2200–2259 z—1 slot |
| Los Angeles (LAX) | 7 slots plus 2 Tower En Route slots |
| | 0500–0559 z—1 slot |
| | 0800–0859 z—2 slots |
| | 1200–1259 z—3 slots |
| | 1700–1759 z—1 slot |
| | Tower En Route |
| | 0100–0159 z—1 slot |
| | 2200–2259 z—1 slot |
| La Guardia (LGA) | 2 slots |
| | 0200–0259 z—1 slot |
| | 1700–1759 z—1 slot |
| Miami (MIA) | 14 slots |
| | 0000–0059 z—1 slot |
| | 0100–0159 z—1 slot |
| | 0500–0559 z—1 slot [1] |
| | 0600–0659 z—1 slot |
| | 0800–0859 z—1 slot |
| | 1000–1059 z—1 slot |
| | 1200–1259 z—1 slot |
| | 1300–1359 z—1 slot |
| | 1400–1459 z—1 slot |
| | 1600–1659 z—1 slot |
| | 1800–1859 z—1 slot |
| | 2200–2259 z—2 slots |
| | 2300–2359 z—1 slot |
| Minneapolis (MSP) | 11 slots |
| | 0200–0259 z—2 slots |
| | 0700–0759 z—1 slot |
| | 1100–1159 z—1 slot |
| | 1200–1259 z—1 slot |

[1] Altair slots subject to return to FAA in accordance with provisions in SFAR 44–6.

ARRIVAL SLOTS AVAILABLE AT CAPACITY CONTROLLED AIRPORTS
EFFECTIVE DECEMBER 22, 1982—Continued

Minneapolis (MSP)—Continued

| *Airport* | *Available Slots* |
|---|---|
| | 1500–1559 z—2 slots |
| | 1700–1759 z—2 slots |
| | 1800–1859 z—1 slot |
| | 2100–2159 z—1 slot |
| Chicago (ORD) (Including MDW) | 18 slots |
| | 0500–0559 z—2 slots |
| | 0600–0659 z—3 slots |
| | 0700–0759 z—2 slots |
| | 0900–0959 z—1 slot |
| | 1000–1059 z—4 slots |
| | 1300–1359 z—1 slot |
| | 1400–1459 z—1 slot |
| | 1500–1559 z—2 slots |
| | 1600–1659 z—1 slot |
| | 1700–1759 z—1 slot |
| Philadelphia (PHL) | 45 slots |
| | 0000–0059 z—1 slot |
| | 0000–0059 z—3 slots [1] |
| | 0100–0159 z—1 slot |
| | 0300–0359 z—2 slots |
| | 0300–0359 z—1 slot [1] |
| | 0500–0559 z—2 slots |
| | 0500–0559 z—1 slot [1] |
| | 0800–0859 z—1 slot |
| | 1000–1059 z—2 slots |
| | 1200–1259 z—1 slot |
| | 1300–1359 z—1 slot |
| | 1300–1359 z—4 slots [1] |
| | 1400–1459 z—3 slots [1] |
| | 1500–1559 z—1 slot |
| | 1500–1559 z—3 slots [1] |
| | 1600–1659 z—1 slot [1] |
| | 1700–1759 z—3 slots [1] |
| | 1800–1859 z—2 slots [1] |
| | 1900–1959 z—1 slot [1] |
| | 2000–2059 z—4 slots [1] |
| | 2300–2359 z—1 slot |
| | 2300–2359 z—6 slots [1] |
| Pittsburgh (PIT) | 7 slots |
| | 0000–0059 z—1 slot |
| | 0300–0359 z—1 slot |

[1] Altair slots subject to return to FAA in accordance with provisions in SFAR 44–6.

ARRIVAL SLOTS AVAILABLE AT CAPACITY CONTROLLED AIRPORTS
EFFECTIVE DECEMBER 22, 1982—Continued

Pittsburgh (PIT)—Continued

| *Airport* | *Available Slots* |
|---|---|
| | 0500–0559 z—1 slot |
| | 1000–1059 z—1 slot |
| | 1100–1159 z—1 slot |
| | 1200–1259 z—1 slot |
| | 1300–1359 z—1 slot |
| San Francisco (SFO) | 9 slots |
| | 0000–0159 z—1 slot |
| | 0900–0959 z—3 slots |
| | 1100–1159 z—1 slot |
| | 1400–1459 z—1 slot |
| | 1500–1559 z—1 slot |
| | 2100–2159 z—1 slot |
| | 2200–2259 z—1 slot |
| St. Louis (STL) | 10 slots |
| | 0400–0459 z—1 slot |
| | 0500–0559 z—1 slot |
| | 0600–0659 z—1 slot |
| | 0700–0759 z—2 slots |
| | 1000–1059 z—2 slots |
| | 1100–1159 z—2 slots |
| | 1300–1359 z—1 slot |

## Special Federal Aviation Regulation 44-7
## With Reference To
## Special Federal Aviation Regulation 44-4 and SFAR 44-5; Air Traffic Control System Interim Operations Plan

**Adopted: August 24, 1983** **Effective: August 25, 1983**

(Published in 48 FR 39054, August 29, 1983)

SUMMARY: This amendment rescinds and removes Special Federal Aviation (SFAR) No. 44–4 and amends SFAR 44–5 so as to permanently allocate slots formerly used by Braniff Airways and temporarily allocated to other airlines under SFAR 44–4 to the carriers currently having those slots in their base. The amendment provides that certain slots will be available for Braniff if certain conditions are met by September 15, 1983. This amendment in part, responds to a letter dated May 19, 1983, from Braniff making a formal request for slots and to a petition for rulemaking submitted by Continental Airlines.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

Background

On Wednesday, May 12, 1982, Braniff Airways, Inc. (Braniff), suspended operations and filed bankruptcy papers under Chapter 11 of the Federal Bankruptcy Code. Braniff had been using a significant number of arrival slots at various airports within the contiguous United States. Those slots had been allocated to Braniff under the FAA's Interim Operations Plan, consistent with a number of Special Federal Aviation Regulations (SFAR), including SFAR 44–3 (47 FR 7816; February 22, 1982). Braniff had been allocated approximately 400 arrival slots, of which about 150 were at Dallas/Fort Worth Regional Airport (DFW). Immediately after Braniff suspended operations, approximately 25 percent of the slots used by Braniff were allocated to other carriers on an emergency basis to minimize the impact on the traveling public of Braniff's suspension of operations.

In order to allocate the remainder of the slots previously utilized by Braniff, the FAA on May 20, 1982, issued SFAR 44–4 (47 FR 22492; May 24, 1982). Under this SFAR, a random draw was held on May 27, 1982, to determine the order in which the slots used by Braniff would be allocated. The preamble to the SFAR included the following language:

> Braniff slots, either under this SFAR or on an emergency basis, are allocated on a temporary basis only. The slots are for up to a 60-day period. During that time, Braniff's Chapter 11 proceedings will be closely monitored. If Braniff does again operate, then the slots necessary for continued Braniff operations will be returned to Braniff. The carriers should be able to use these slots for 60 days, but all parties are put on notice that the award of these slots may be revoked upon 24-hour notice. Carriers should not apply for these slots unless they will be in a position to operate under these conditions. At no later than the end of that 60-day period, this temporary approval may be extended or a longer term allocation procedure for the particular slots may be promulgated.

The slots so allocated were designated "DS" on FAA records and retain that designation today.

On December 23, 1982, Braniff filed an application for approval of a proposed agreement between Braniff and Pacific Southwest Airlines (PSA). On December 30, 1982, Braniff filed with the Bankruptcy Court a "Memorandum of Understanding" as a basis

for a proposed settlement and compromise of all claims, counter-claims, and potential litigations by and among Braniff, certain unsecured creditors, and certain secured creditors. The "Memorandum" contained a proposed arrangement between Braniff and PSA in which PSA would obtain a number of Braniff's aircraft, airport leases and other equipment, and Braniff's landing slots would be transferred to PSA.

On January 26, 1983, the Administrator advised Braniff that the proposed agreement between Braniff and PSA did not satisfy the conditions for the return of the slots set forth in SFAR 44-4; therefore, the slots were not returned to Braniff. The Administrator also stated that it was his intention to take action to permanently allocate these slots.

On March 2, 1983, the United States Court of Appeals for the Fifth District reversed the lower court orders approving the agreement and transfer of slots (In Re Braniff Airways, Inc., 700 F.2d 935 (1983)). The Court of Appeals held that, even under the broad terms of Section 105 of the Bankruptcy Act, slots were not property and that, therefore, the District Court did not have jurisdiction to order the FAA to return landing slots to Braniff or a "successor" of Braniff. Even if the slots rose to "some limited proprietary interest," the Fifth Circuit held that the FAA still had sole authority to approve the transfer contemplated.

On December 30, 1982, Continental Air Lines, Inc., filed a petition for rulemaking requesting the agency to institute proceedings for the adoption of rules to govern the long-term allocation of airport landing slots formerly assigned to Braniff. In support of its petition, Continental stated that the allocation of the slots formerly used by Braniff was originally intended to be for a temporary 60-day period to permit the FAA to monitor Braniff's bankruptcy proceedings. Continental further stated that the agency seems to have contemplated that slots necessary for continued operations would be returned to Braniff if Braniff resumed operations in the near term; otherwise, incumbents would be allowed to continue to use the slots, or some new long-term allocation procedure would be adopted.

By letter (copy is in docket) dated May 19, 1983, Howard Putnam, President of Braniff, formally requested authority to use 188 of the slots previously utilized by Braniff. Mr. Putnam stated that the planned start-up date was October 1, 1983.

On June 16, 1983, the FAA issued Notice No. 83-7 which proposed alternative methods for the disposition of the Braniff slots and the May 19 Braniff request.

On June 23, 1983, an agreement was filed in the Bankruptcy Court between Braniff and Hyatt Air, Inc., which would allow Braniff to resume operations.

## Discussion of Comments and the Rule

The FAA received a number of comments on Notice No. 83-7. The comments were basically split among the alternatives proposed in the notice.

One commenter questioned the amount of time given to respond to the notice. The NPRM did contain an 8-day comment period. The June 28 slot selection session was a major factor in determining the length of the comment period. It was necessary for the agency to receive comments on the notice prior to the date of the session.

Since the session was set for June 28, it was necessary to ask for comments by June 24. The FAA, in fact, provided advance notice to all air carriers. It must be noted that on May 27, 1983, the FAA issued a telex to all air carriers announcing a change in the date for the slot allocation session. In that telex, the agency stated that several alternative methods to allocate slots to Braniff were being considered, including one which "would be to allocate some or all of the necessary arrivals out of the September 1 allocation." The agency further stated that "such a procedure might diminish or eliminate the need for recall for some or all of the SFAR 44-4 slots." Therefore, the agency raised the specific alternatives discussed in the NPRM with all directly affected parties several weeks before the NPRM was issued. When that telex was sent, the agency reminded all parties that the SFAR 44-4 Docket was open for comment.

In this connection, the issue of disposition of the Braniff slots was initially raised in Continental Airlines' December 30, 1982, petition for rulemaking. Continental's petition requested that the FAA make permanent those former Braniff slots allocated to other carriers while providing some priority to allow Braniff to obtain newly available slots. The petition was published in the *Federal Register*. The majority of the comments submitted in response to Continental's request to permanently allocate the "Braniff" slots supported portions of the petition. Therefore, the issue of alternative methods of allocating slots to Braniff was originally raised in December by Continental's petition. Thus, interested parties were given several opportunities during the past 6 months to submit their views on this issue. Numerous comments were submitted on that petition as well as in response to Notice No. 83-7.

It must be further noted that although June 24 was listed as the close of the comment period, 14 CFR 11.47 provides that comments filed late will be considered.

If the agency were to extend the comment period, it would also have had to delay, for a second time, the slot allocation session. The agency agreed with those commenters who urged the agency not to delay the session because of the impact that would have on the air carriers' ability to finalize and make public their September schedules. For this reason, that alternative was not selected.

Since the comment period (and following slot session) could not be postponed and since the public had several opportunities to have input on the agency's decisionmaking process, the length of the comment period in Notice 83-7 was reasonable.

Some commenters stated that it was premature to give slots to Braniff. The agency recognizes that several major additional steps must be taken before Braniff will be in a position to operate. In addition, Braniff has not shown that the Braniff/Hyatt arrangement is consistent with the Administrator's previous determination that slots would be made available to Braniff or an air carrier succeeding to the rights, duties, and obligations of Braniff. That determination cannot be made until later this summer after further bankruptcy proceedings. On the other hand, the agency recognizes that if some provision is not made to provide Braniff with the opportunity to select some slots, then slot availability could be the single factor which prevents Braniff from again operating. While the agency would have preferred to make such a slot determination later in the year, if some action were not taken at this time, there would be no slots available for the remainder of the year. Therefore, the agency needs to act now if Braniff is to be given an opportunity to operate.

Since the agency needs to take some action concerning slots for Braniff, the remaining question was which alternative would be selected.

Various commenters submitting comments to Continental's petition for rulemaking and Notice No. 83-7 were opposed to the agency recalling SFAR 44-4 slots and allocating them to Braniff. A number of commenters stated that requiring carriers to return slots would result in a substantial disruption of airline service patterns to the detriment of the traveling public. One commenter stated that this alternative "would be unnecessarily disruptive to the air traffic control system and it would be difficult to implement on an equitable basis."

A number of commenters were opposed to the alternative which would provide Braniff with slots from the September allocation. Those commenters stated that this proposal unfairly rewards carriers still holding Braniff slots over carriers that have used previous selection to obtain improved positions in the June selection. Another commenter stated that this proposal would deprive it of an opportunity to select slots at certain airports.

After issuance of the NPRM, Braniff advised the FAA that November 15, 1983, not October 1, 1983, is a realistic restart date. As a result of that change in proposed startup

date, the total number of slots needed by Braniff for a November 15 operation would be 53 slots (19 airport slots and 34 center slots).

As a result of the relatively small number of slots needed for Braniff's operation, setting aside those slots from new capacity is a more reasonable alternative than recalling the "Braniff" slots from carriers currently holding them. The latter alternative would involve a costly and burdensome process which would affect 30 carriers, the approximate number of carriers with "Braniff" slots at the airports and centers in question. It would take several weeks to complete any process selected. That could create scheduling problems for these carriers and could disrupt large numbers of travellers. On the other hand, the impact on the system of withholding 53 slots from allocation is minimal. For example, the number of slots involved at Chicago, Denver, and Los Angeles represents less than 1 percent of arrival slots at those airports. While the agency acknowledges that there are carriers that could have selected those slots, it is purely speculative to suggest which carriers would have been in a position to select specific slots. In addition, that impact should also be minimal since slot restrictions will, in most cases, be eliminated by the end of the year.

Although there is some impact as a result of withholding the 53 slots from allocation, that impact is minimal and is much less disruptive of the entire system than the alternative of recalling slots. For that reason, the agency will not recall the Braniff slots and will, by this amendment, make those allocations permanent.

Assuming that Braniff is able to obtain the necessary approvals to commence operation, it will need slots to begin operation. Because of the number of slots needed, Braniff would not have been able to obtain a sufficient number of slots in the June 24 slot selection session where FAA allocated new capacity for the September-December period. Even if Braniff were granted new entrant status at that session, it would not have been able to obtain the slots it is seeking.

At the June 28 sessions, the Administrator withheld 53 slots. Those slots will be withheld from allocation until September 15. On that date, those slots will be allocated to Braniff if it has obtained all necessary approvals for its proposed reorganization and the Administrator determines that the reorganization is consistent with previous agency statements (including SFAR 44-4) on this subject. It should be noted that preliminary review of material submitted to the Bankruptcy Court shows that the Braniff/Hyatt proposal is consistent with SFAR 44-4.

If those conditions are not satisfied by September 15 or if the Administrator determines that at an earlier time that Braniff will not operate by November 15, 1983, then an allocation in accordance with SFAR 44-5 will be held for the 53 slots. In order to accomplish this, the agency will closely monitor the Braniff bankruptcy proceedings. In this connection, it is expected that Braniff and Hyatt officials will keep agency officials advised as to all bankruptcy developments.

In the NPRM, the agency proposed that other carriers be allowed to utilize the slots set aside for Braniff until Braniff operates or until it is determined that Braniff will not operate. The agency has determined not to allow temporary use of these slots. The administrative workload involved in tracking and perhaps recalling those slots outweighs the possible benefits which might be obtained by temporary usage of the slots by a limited number of carriers.

In order to obtain the information needed from Braniff on or before September 15, 1983, as to whether they will be able to operate by November 15, 1983, it is necessary to make this rule effective in less than 30 days. Therefore, I find that good cause exists for making this regulation effective less than 30 days after its publication in the *Federal Register*.

## PART 91—GENERAL OPERATING AND FLIGHT RULES

Accordingly, the FAA rescinds Special Federal Aviation Regulation No. 44–4, in Part 91 effective August 25, 1983, and the FAA amends the Appendix to Part 91 of Special Federal Aviation Regulation No. 44–5, effective August 25, 1983.

(Secs. 307(a) and (c), 313(a) and 601(a), Federal Aviation Act of 1958, as amended (49 U.S.C. 1348(a) and (c), 1354(a), 1421(a)); sec. 6(c) Department of Transportation Act (49 U.S.C. 1655(c)))

NOTE: The FAA has determined that this rule only affects a minor number of slots and the number of carriers holding slots. There are no apparent direct or indirect (non-industry) costs associated with the rule. Therefore, the preparation of a full regulatory evaluation is unnecessary.

Based on the above, it has been determined that this is not a major regulation under Executive Order 12291 and I certify that, under the criteria of the Regulatory Flexibility Act, the proposed rule will not have a significant economic impact on a substantial number of small entities. In addition, the FAA has determined that this amendment is not significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

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# Special Federal Aviation Regulation 47
# Special Flight Authorization for Noise Restricted Aircraft

**Adopted: January 22, 1985** **Effective: February 26, 1985**

(Published in 50 FR 7751, February 26, 1985)

SUMMARY: This Special Federal Aviation Regulation (SFAR) provides for limited issuance of special flight authorizations to conduct certain nonrevenue operations that would otherwise be prohibited by the Part 91, Subpart E, noise restrictions after December 31, 1984. This SFAR is necessary to prevent imposing an economic burden on those operators who have a justified need to make limited operations at U.S. airports and, without this SFAR, would have to petition for a grant of exemption under Part 11.

This final rule will terminate on December 31, 1986.

FOR FURTHER INFORMATION CONTACT:

Mr. David Smith, Noise Policy and Regulation Branch (AEE-110), Noise Abatement Division, Office of Environment and Energy, Federal Aviation Administration, 800 Independence Avenue, SW, Washington, D.C. 20591, telephone: (202) 755-9027.

SUPPLEMENTARY INFORMATION:

Discussion of Public Comments on the Special Flight Authorization for Noise Restricted Aircraft:

These amendments are based on Notice of Proposed Rulemaking No. 84-24 published in the Federal Register on December 21, 1984 (49 FR 49643). Interested persons have been afforded the opportunity to participate in the development of all aspects of this rulemaking by submitting written comments to the public regulatory docket. The period for submitting comments closed December 31, 1984. All comments received have been reviewed and considered in the issuance of this final rule. This amendment and the reasons for its adoption are the same as those contained in Notice 84-24, and, unless otherwise indicated, the proposals contained in the Notice have been adopted without change.

A total of three public comments were received concerning the granting of the Special Flight Authorization for noise restricted aircraft. All commentors were in general agreement with the bases for Special Flight Authorizations outlined in NPRM 84-24. However, two specific changes were recommended for adoption by the FAA.

All three commentors requested that the FAA expand the special flight authorization to noncomplying foreign operated aircraft which use U.S. maintenance bases. The intent of the special FAR is to allow operation of noncomplying aircraft for the sole purpose of noise modification or disposition of noncomplying aircraft. The FAA feels any broadening of the special flight authorization would defeat the original intent of the rule.

Two commentors feel that processing of applications for the Special Flight Authorization should be transferred from the Director of Environment and Energy to the FAA's local regional office. The commenters state that the local regional offices which have day to day knowledge of the operations of the air carriers, aircraft leasing and maintenance businesses under their jurisdiction, will be in the better position to expedite the application process.

The FAA does not agree that the review process will be more time consuming if processed at Washington headquarters. The number of applications for special flight authorization are expected to be both minimal and dispersed over a long period of time.

## BACKGROUND

Under Part 91 of the Federal Aviation Regulations, on or after January 1, 1985, no person may operate a civil subsonic turbojet airplane with maximum weight of more than 75,000 pounds to or from an airport in the United States unless that airplane has been shown to comply with Stage 2 or Stage 3 noise levels under Part 36. This restriction applies to U.S. registered aircraft that have standard airworthiness certificates and

foreign registered aircraft that would be required to have a U.S. standard airworthiness certificate in order to conduct the operations intended for the airplane were it registered in the United States. Under current regulations, authority to conduct operations at U.S. airports on and after January 1, 1985, with noncomplying aircraft can only be obtained by a grant of exemption issued under Public Law 98–473 (enacted October 12, 1984), or Part 11. The FAA is aware that after January 1, 1985, there may be numerous operators desiring to operate noncompliant aircraft in the United States for the purpose of delivering them to foreign purchasers or flying them to a place where they can be modified to comply with Stage 2 or Stage 3 noise levels.

This SFAR provides the regulatory basis for approval of limited special flight authorization for noncomplying aircraft under Part 91, Subpart E. The FAA finds that it is in the public interest to allow limited operations of certain airplanes that do not meet the noise standards of Part 91, Subpart E, for the purpose of delivering the aircraft to a foreign purchaser or flying it to the site of a modifier in the United States who will bring it into compliance with FAR 91.303. With this SFAR, operators will be able to apply for a special flight authorization to allow limited nonrevenue operations at specified U.S. airports.

## ECONOMIC IMPACT

This rule has minimal economic impact. The rule allows an alternative from the exemption process which imposes greater administrative costs upon operators and the FAA. While the operations are not without some noise costs, these costs can be characterized as trivial, since the number of operations at any one local airport will be extremely low in number.

Even though benefits will exceed costs for this proposal, the FAA finds that the SFAR is not likely to have significant economic impact upon a substantial number of small entities. The basis for this is the very low number of requests which FAA foresees as a result of this rule. This number should not exceed one hundred over the life of the regulation. Accordingly, preparation of a full regulatory evaluation is not required.

## GOOD CAUSE JUSTIFICATION FOR IMMEDIATE EFFECTIVITY

Section 553 of the Administrative Procedure Act provides that the publication of a substantive rule shall be made not less than 30 days before its effective date except as otherwise provided by the Agency for good cause found and published with the final rule.

This rule becomes effective immediately upon publication. The FAA finds that immediate implementation of this SFAR is justified based on the relief it will provide operators of noncomplying airplanes being flown to airports in conjunction with export sales, storage, noise modification to Stage 2 or Stage 3 levels and flights necessary for the sale, lease or other disposition of the airplane. To the extent that such aircraft noise modifications, or export of noncompliant aircraft, would be delayed by prior publication of this amendment, such 30 day notice would be contrary to the public interest.

This rule has minimal economic consequencies. Accordingly, for reasons stated earlier the FAA has determined that: (1) The amendment does not involve a major rule under Executive Order 12291; (2) the amendment is not significant nor does it require a full Regulatory Evaluation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) it is certified that under the criteria of the Regulatory Flexibility Act the amendment will not have a significant economic impact on a substantial number of small entities. In addition, this rule will have little or no impact on trade opportunities for U.S. firms doing business overseas, or for foreign firms doing business in the United States.

## The Final Rule

Accordingly, the FAA amends Part 91 of the Federal Aviation Regulations (14 CFR Part 91), by adding new Special Federal Aviation Regulation (SFAR) 47 effective February 26, 1985.

[Sec. 313(a), 601, and 603, Federal Aviation Act of 1958, as amended (49 U.S.C. 1354(a), 1421, 1423, and 1424); 49 U.S.C. 106(g) (revised; Pub. L. 97-449, January 12, 1983, Pub. L. 96-13, February 18, 1980)]

## Special Federal Aviation Regulation 47-1

## Special Authorization for Noise Restricted Aircraft

**Adopted: December 24, 1986** **Effective: January 1, 1987**

(Published in 51 FR 47219, December 31, 1986)

SUMMARY: Special Federal Aviation Regulation (SFAR) 47 provides for limited issuance of special flight authorizations to conduct certain nonrevenue operations that are otherwise prohibited by the Part 91, Subpart E, noise restrictions. The current rule terminates on December 31, 1986. This rule extends SFAR 47 through December 31, 1987, and reduces the purposes for which a special flight authorization may be issued by not permitting the return to the United States of an exported aircraft except to hushkit or scrap the aircraft or to permit movements between storage locations in the United States.

DATES: Effective date of this amendment is January 1, 1987.

FOR FURTHER INFORMATION CONTACT: Mr. Richard Tedrick, Noise policy and Regulatory Branch (AEE-110), Noise Abatement Division, Office of Environment and Energy, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C., 20591, telephone (202) 267-3558.

SUPPLEMENTARY INFORMATION:

Background

Under Part 91 of the Federal Aviation Regulations (FAR), on or after January 1, 1985, no person may operate a civil subsonic turbojet airplane with a maximum weight of more than 75,000 pounds to or from an airport in the United States unless that airplane has been shown to comply with Stage 2 or Stage 3 noise levels under Part 36. This restriction applies to U.S. registered aircraft that have standard airworthiness certificates and foreign registered aircraft that would be required to have a U.S. standard airworthiness certificate in order to conduct the operations intended for the airplane were it registered in the United States. SFAR 47 was adopted February 26, 1985, (50 FR 7751; February 26, 1985) to permit certain noncomplying operations of noise restricted aircraft which would be unlawful without a formal grant of exemption under FAR Part 11. The FAA has determined these limited issuance special flight authorizations to be very cost beneficial and time efficient to both the government and the private sector. However, SFAR 47 expires on December 31, 1986, and to permit the operation of remaining non-noise compliant airplanes to, from, or within the United States, this amendment extends SFAR 47 for a one year period until December 31, 1987.

Experience gained in the issuance of these special flight authorizations indicates that certain changes to the purposes for which SFAR 47 may be utilized are required. The adoption of this amendment precludes some operations now permitted by SFAR 47. However, applicants seeking authorization for operations previously permitted under SFAR 47 will still be able to petition for an exemption under FAR Part 11 for those operations.

This rule amends Section 2 of SFAR 47 so that operators importing or returning aircraft into the United States after export can only obtain special flight authorizations to permit them to deliver the aircraft to be scrapped or for modification to bring the aircraft into compliance with Stage 2 or Stage 3 noise levels. In addition, operations solely to change storage locations within the United States will no longer be authorized under SFAR 47. Aircraft in storage in the United States can still be exported, moved to be scrapped or modified to comply with the noise level requirements, but not to another point of storage in the United States. These changes are necessary to bring the SFAR into closer agreement with the long-standing public policy discussed under "Review of Comments" below.

This rule also amends Section 3 of SFAR 47 to require the applicant for a special flight authorization to supply a point of contact and information on the aircraft airworthiness

status. Based on experience gained in administering SFAR 47, the provision of this information will reduce or eliminate delays in processing applications for SFAR 47 authorizations.

EFFECTIVE DATE

The final rule is effective January 1, 1987, which is less than 30 days after the date of publication. Such action is necessary for the FAA to have continuous and uninterrupted regulatory authority to grant exemptions (special flight authorizations) to operators of qualifying aircraft. The public need to grant these exemptions constitutes good and sufficient cause to waive the normal 30-day waiting period.

Review of Comments

These amendments are based on Notice of Proposed Rulemaking No. 86–12 published in the *Federal Register* on August 18, 1986 (51 FR 29476). Interested persons have been afforded the opportunity to participate in the development of all aspects of this rulemaking by submitting written comments to the public regulatory docket. The period for submitting comments closed October 2, 1986. Five comments were received. They were carefully reviewed and considered in the issuance of this final rule. All five generally supported extension of the SFAR, but each went on to suggest proposed modifications. Four of the five commenters were from the Miami, Florida, area and they suggested allowing unlimited maintenance flights into Miami. The fifth commenter was an airline labor association that suggested extending the life of the SFAR to December 31, 1990.

Concerning maintenance flights to Miami, the FAA believes that such exemptions would provide only some short-term increase in business activity for Miami area certificated repair facilities. Several U.S. and foreign companies (including one in Miami) are currently producing and installing hush-kits for DC-8's and Boeing 707's. As noncomplying aircraft are either retrofitted or scrapped, the economic significance of maintaining the remaining noncompliant aircraft will continue to shrink. At the same time, maintenance activity in support of complying airplanes will increase. More than 100 airplanes operated by U.S. and foreign operators have been retrofitted to date.

Prior to adopting the original SFAR, the FAA carefully assessed the availability of repair facilities outside the United States for operators of noncomplying aircraft and found that they were entirely adequate to serve those aircraft which needed such service and could not be operated into the United States. Further, Miami is not the only location to which operators wish to fly their aircraft for maintenance. Large maintenance facilities exist at Marana, Arizona, and Smyrna, Tennessee, and requests have been made for exemptions and special flight authorizations to move aircraft to both locations. Other major facilities are located elsewhere in the United States, as well. In this respect, Miami is not unique, and there is no distinguishable rationale for extending SFAR 47 privileges to just that one city.

Finally, there would be a serious problem in administering the large number of special flight authorizations if purely maintenance flights were allowed. Each authorization must be processed and its terms enforced. Since the flights are limited to nonrevenue operations and no cargo or passengers may be carried except those directly concerned with the operation of the aircraft, the FAA's operations inspectors would have to expend substantial time to assure that the provisions of the special flight authorizations were met.

Similarly, the FAA does not agree with the commenter's suggestion to extend SFAR 47 through 1990. Since the original adoption of the FAA's aircraft noise compliance rule, Part 91, Subpart E (14 CFR Part 91) of the Federal Aviation Regulations in 1976, public policy has been to encourage removal of older, noisier airplanes from operations at all U.S. airports. U.S. operation of most noncomplying 3 and 4 engine airplanes became illegal on January 1, 1985. The SFAR is intended to provide a means for ferrying the last few noncompliant aircraft out of the country or to domestic locations for hushkitting; it is not intended to provide a permanent alternative to complying with the Part 91 regulation.

For the reasons discussed above, the FAA has decided not to adopt the commenters suggestions. Otherwise, this amendment and the reasons for its adoption are the same as those contained in Notice 86-12, and, unless otherwise indicated, the proposals contained in the Notice have been adopted without change.

Paperwork Reduction Act

The reporting requirements contained in this regulation have been approved by the Office of Management and Budget under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96-511) and have been assigned OMB Control Number 2120-0518.

ECONOMIC IMPACT

This rule has minimal economic impact. The rule provides an alternative from the exemption process for certain operations, reducing administrative costs upon operators and the FAA. While the operations are not without some noise costs, these costs can be characterized as trivial, since the number of operations at any one local airport will be extremely low in number.

Even though benefits will exceed costs for this proposoal, the FAA finds that the SFAR is not likely to have significant economic impact upon a substantial number of small entities. The basis for this is the very low number of requests which FAA foresees as a result of the adoption of this proposal. This number should not exceed fifty over the life of the regulation. Accordingly, preparation of a full regulatory evaluation is not required.

ENVIRONMENTAL ANALYSIS

Pursuant to Department of Transportation "Policies and Procedures for Considering Environmental Impacts" (FAA Order 1050.1D), a Finding of No Significant Impact has been prepared. The changes proposed in this rule do not significantly affect the quality of the human environment.

REASONS FOR IMMEDIATE ADOPTION

The timely extension of SFAR 47 will enable the uninterrupted issuance of limited special flight authorizations to permit certain noncomplying operations of noise restricted aircraft which would be unlawful without a formal grant of exemption under FAR Part 11. Because the ability to issue these limited special flight authorizations will expire after December 31, 1986, and because they are very cost beneficial and time efficient to both the government and the private sector, good cause exists to making this amendment effective in less than 30 days.

THE FINAL RULE

Accordingly, the FAA amends Part 91 of the Federal Aviation Regulations (14 CFR Part 91) by amending Special Federal Aviation Regulation (SFAR) 47 effective January 1, 1987.

[The authority citation for Part 91 is revised to read as set forth below and the authority citations following Special Federal Aviation Regulation 47 are removed:

Authority: 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421 through 1431, 1471, 1472, 1502, 1510, 1522, and 2121 through 2125; Articles 12, 29, 31, and 32(a) of the Convention on International Civil Aviation (61 Stat. 1180); 42 U.S.C. 4321 et seq.; E.O. 11514; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 21, 1983).]

The rule has minimal economic consequences. Accordingly, for reasons stated earlier the FAA has determined that: (1) the amendment does not involve a major rule under Executive Order 12291; (2) the amendment is not significant, and, because of its minimal economic consequence, it does not require a full Regulatory Evaluation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) it is certified that under the criteria of the Regualtory Flexibility Act that the amendment will not have significant economic impact on a substantial number of small entities. In addition, this rule will have little or no impact on trade opportunities for U.S. firms doing business overseas, or for foreign firms doing business in the United States.

## Special Federal Aviation Regulation 47-2

## Special Authorization for Noise Restricted Aircraft

**Adopted: December 9, 1987** **Effective: January 1, 1988**

(Published in 52 FR 47672, December 15, 1987)

SUMMARY: Special Federal Aviation Regulation (SFAR) 47 provides for limited issuance of special flight authorizations to conduct certain nonrevenue operations that are otherwise prohibited by the Part 91, Subpart E, noise restrictions. The current rule expires on December 31, 1987. This rule extends SFAR 47 through December 31, 1989, and requires all requests for special flight authorizations to be submitted in writing at least five days prior to the date the applicant wishes to conduct its flight. The FAA does not plan to extend the SFAR beyond January 1, 1990.

DATES: Effective date of this amendment is January 1, 1988.

FOR FURTHER INFORMATION CONTACT: Mrs. Laurette Fisher, Noise Policy and Regulatory Branch (AEE-110), Noise Abatement Division, Office of Environment and Energy, Federal Aviation Administration, 800 Independence Ave., SW., Washington, D.C. 20591, telephone: (202) 267-3561.

SUPPLEMENTARY INFORMATION:

*Background*

Under Part 91 of the Federal Aviation Regulations (FAR), on or after January 1, 1985, no person may operate a civil subsonic turbojet airplane with maximum weight of more than 75,000 pounds to or from an airport in the United States unless that airplane has been shown to comply with Stage 2 or Stage 3 noise levels under FAR Part 36. This restriction applies to U.S. registered aircraft that have standard airworthiness certificates and foreign registered aircraft that would be required to have a U.S. standard airworthiness certificate in order to conduct the operations intended for the airplane were it registered in the United States. SFAR 47 was adopted February 26, 1985, (50 FR 7751, February 26, 1985) to permit certain operations of noise restricted aircraft without a formal grant of exemption under FAR Part 11. The FAA has determined this process to be cost beneficial and time-efficient both to the government and the private sector. On December 31, 1986, FAA extended SFAR 47 for a one year period until December 31, 1987.

This rule amends Section 3 of SFAR 47 to require the applicant for a special flight authorization to submit its request in writing five days before the applicant's requested flight date.

This rule amends Section 5 of SFAR 47 to extend the regulation to December 31, 1989. Extension beyond that date is not necessary because, by that date, most non-compliant Stage 1 aircraft will either have been modified to meet Stage 2 noise standards or be out of service.

*Paperwork Reduction Act*

The reporting requirements contained in this regulation have been approved by the Office of Management and Budget under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96-511) and have been assigned OMB Control Number 2120-0518.

*Review of Comments*

These amendments are based on Notice of Proposed Reulmaking No. 87-9 published in the *Federal Register* on September 16, 1987 (52 FR 35052). Interested persons have been afforded the opportunity to participate in the development of all aspects of this rulemaking by submitting written comments to the public regulatory docket. The period for submitting comments closed October 16, 1987. One comment was received which supported the proposal. This amendment and the reasons for its adoption are the same as those contained in Notice 87-9, and, unless otherwise indicated, the proposals contained in the Notice have been adopted without change.

ECONOMIC IMPACT

This rule has minimal economic impact. The rule provides an alternative from the exemption process for certain operations, reducing administrative costs upon operators and the FAA. While the

operations are not without some noise costs, these costs can be characterized as trivial, since the number of operations at any one airport will be extremely low in number.

Even though benefits will exceed costs for this proposal, the FAA finds that the SFAR is not likely to have significant economic impact upon a substantial number of small entities. The basis for this is the very low number of requests which FAA foresees as a result of the adoption of this proposal. This number should not exceed twenty over the life of the regulation. Accordingly, preparation of a full regulatory evaluation is not required.

## ENVIRONMENTAL ANALYSIS

Pursuant to Department of Transportation "Policies and Procedures for Considering Environmental Impacts" (FAA Order 1050.1D), a Finding of No Significant Impact has been prepared. The changes proposed in this rule do not significantly affect the quality of the human environment.

## CONCLUSION

The rule has minimal economic consequences. Accordingly, for reasons stated earlier the FAA has determined that: (1) the amendment does not involve a major rule under Executive Order 12291; (2) the amendment is not significant nor does it require a Regulatory Evaluation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) it is certified that under the criteria of the Regulatory Flexibility Act that the amendment will not have significant economic impact on a substantial number of small entities. In addition, this rule will have little or no impact on trade opportunities for U.S. firms doing business overseas, or for foreign firms doing business in the United States.

## FINAL RULE

Accordingly, the FAA amends Part 91 of the Federal Aviation Regulations (14 CFR Part 91) by amending Special Federal Aviation Regulation (SFAR) 47, effective January 1, 1988.

The authority citation for Part 91 is revised to read as set forth below and the authority citations following Special Federal Aviation Regulation 47 are removed:

*Authority:* 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421 through 1431, 1471, 1472, 1502, 1510, 1522, and 2121 through 2125; Articles 12, 29, 31, and 32(a) of the Convention on International Civil Aviation (61 Stat 1180); 42 U.S.C. 4321 et seq.; E.O. 11514; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 21, 1983).

## Special Federal Aviation Regulation 47

1. Contrary provisions of Part 91, Subpart E notwithstanding, an operator of a civil subsonic turbojet airplane with maximum weight of more than 75,000 pounds may conduct an approved limited nonrevenue operation in that airplane at U.S. airports when—

(a) FAA authorization for the operation has been issued under paragraph 3 of the SFAR;

(b) The operator complies with all conditions and limitations established by this SFAR and the authorization;

(c) A copy of the authorization is carried aboard the airplane during all operations at U.S. airports; and

(d) The airplane carries an appropriate airworthiness certificate issued by the country of registration and meets the registration and identification requirements of that country.

2. FAA authorization for the operation of a Stage 1 civil turbojet to or from U.S. airports may be issued for the following purposes:

(a) Flying the airplane to an airport where alterations are to be performed to achieve compliance with Stage 2 or Stage 3 noise levels under Part 36;

(b) Exporting the airplane including flying the airplane to U.S. airports necessary in direct conjunction with the exportation of the airplane; and

(c) Operations deemed necessary by the FAA for scrapping the airplane.

3. An application for a special flight authorization under this Special Federal Aviation Regulation should be submitted to the FAA, Director of the Office of Environment and Energy and include the following information:

(a) The airplane operator;

(b) The airplane make, model, registration number and serial number;

(c) The purpose of the special flight authorization;

(d) All U.S. airports to be included in the special flight authorization and the number of takeoffs and landings at each;

(e) The approximate dates of the requested flight authorizations;

(f) The number of people to be aboard the airplane and the function of each;

(g) Any other information or documentation requested by the Director, Office of Environment and Energy, as necessary to determine whether the application should be approved.

(h) The applicant's name and telephone number.

(i) Whether a special flight permit under FAR Part 21.197 or a special flight authorization under FAR Part 91.28 is required for the proposed flight.

[(j) Written requests must be received five days prior to requested flight date.]

4. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511) and have been assigned OMB control number 2120–0518.

5. This Special Federal Aviation Regulation terminates on December 31, [1989], unless sooner rescinded or superseded.

## Special Federal Aviation Regulation 50-2

## Special Flight Rules in the Vicinity of the Grand Canyon National Park

**Adopted: May 27, 1988** **Effective: September 22, 1988**

**(Published in 53 FR 20284, June 2, 1988)**

SUMMARY: This action revises the procedures for operation of aircraft in the airspace above the Grand Canyon up to an altitude of 14,500 feet above mean sea level (MSL). The regulations are adopted to comply with recent legislation requiring additional FAA regulations based on the recommendations of the U.S. Department of the Interior. The rule implements the recommendations of the Department of the Interior, with some modifications. The rule: (1) establishes a Special Flight Rules Area from the surface to but not including 14,500 feet MSL in the area of the Grand Canyon; (2) prohibits flights below a certain altitude in each of five sectors of this area, with certain exceptions; (3) establishes flight-free zones from the surface to 14,500 feet MSL above large areas of the Park; (4) provides for routes for commercial tour operators and transient operators through the canyon area; and (5) retains certain existing terrain avoidance and communications requirements for flights in the area.

DATES: *Effective date:* September 22, 1988.

*Comment date:* Comments must be received on or before August 1, 1988.

*Expiration date:* Special Federal Aviation Regulation No. 50-2 expires on June 15, 1992.

ADDRESSES: Comments on the proposed permanent rule regulation may be mailed in duplicate to:

Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC-204), Docket No. 25149, 800 Independence Avenue, S.W., Washington, D.C. 20591

*or delivered in duplicate to:*

FAA Rules Docket, Room 916, 800 Independence Avenue, S.W., Washington, D.C.

Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT:

David L. Bennett, Office of the Chief Counsel, AGC-230, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591, Telephone: (202) 267-3491.

SUPPLEMENTAL INFORMATION:

*Comments Invited*

Even though this rule is final, interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire on any portion of the rule. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions. Communications should identify the regulatory docket number and be submitted in duplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 25149." The postcard will be date/time stamped and returned to the commenter. All comments submitted will be available for examination in the Rules Docket both before and after the closing date for comments.

*Availability of Document*

Any person may obtain a copy of this document by submitting a request to the Federal Aviation Administration, Office of Public Affairs, APA-200, 800 Independence Avenue, S.W., Washington, D.C. 20591; or by calling (202) 267-3479. Communications must identify the special rule number of the document.

*Background*

On June 5, 1987, the FAA issued SFAR 50-1 (52 FR 22734, June 15, 1987), a special federal aviation regulation establishing flight regulations in the vicinity of the Grand Canyon National Park. That rule remains in effect until the effective date of the rule adopted in this action.

On August 18, 1987, legislation was enacted to require a study of aircraft noise impacts at a number of national parks and to impose flight restrictions at 3 parks: Grand Canyon National Park, Yosemite National Park in California, and Haleakala National Park in Hawaii. (Public Law 100-91).

Section 3 of Public Law 100-91 required the Secretary of the Interior to submit to the Administrator recommendations for action necessary for the protection of resources in the Grand Canyon from adverse impacts associated with aircraft overflights. The recommendations were to provide for substantial restoration of the natural quiet and experience of the park. With limited exceptions, the recommendations were to prohibit the flight of aircraft below the rim of the Canyon and to designate zones that were flight free except for purposes of administration of underlying lands and for emergency operations.

Public Law 100-91 further required the Administrator of the FAA to prepare and issue a final plan for the management of air traffic above the Grand Canyon. The plan was to implement the recommendations of the Secretary without change unless the Administrator determined that implementing the recommendations would adversely affect aviation safety. In that event, the FAA was required, in consultation with the Secretary and after notice and opportunity for hearing, to revise the DOI recommendations to resolve the safety impacts and issue regulations implementing the revised recommendations in the plan.

## DEPARTMENT OF INTERIOR RECOMMENDATIONS

Pursuant to Section 3(b)(1) of Public Law 100-91, the Office of the Secretary of the Interior in December 1987 transmitted recommendations to the FAA for an aircraft management plan at the Park. The recommendations submitted included both rulemaking and nonrulemaking actions. The Department of the Interior (DOI) recommendations which were regulatory in nature and which could have required rulemaking action by the FAA for implementation may be summarized as follows:

1. Establish special use airspace (SUA), designated as the "Grand Canyon Special Flight Rules Area" and classified as prohibited airspace, over the geographical boundaries of the Grand Canyon from the surface to as high as 14,500 feet MSL.

2. Establish within the Grand Canyon Special Flight Rules Area three types of zones:

a. *Below Rim Level Zone.* Aircraft flight would be prohibited below the rim of the canyon with limited exceptions for NPS administrative flights; flights to Supai and Hualapai Indian reservations; and certain flights transporting persons to or from boat trips on the Colorado River. Rim level elevation of the Canyon will be considered as follows: (1) 6,000 feet MSL for the eastern section from Lees Ferry to Boundary Ridge, where the Grand Canyon visibly begins to widen; (2) 7,500 feet MSL from Boundary Ridge to Tuweep (outside the flight-free zones); (3) 6,500 feet MSL from Tuweep to Diamond Creek; and (4) 5,000 feet MSL for the western section from Diamond Creek to the Grand Wash Cliffs.

b. *Flight-free Zones.* Flight would be prohibited, with the exception of the categories of flights excepted from flight below the rim, in 4 large areas together encompassing 530,000 acres or 44 percent of the total park area. The areas are set forth in detail in Notice 88-3 issued by the FAA on February 29.

c. *Above Rim Level Zone.* Flight above rim level and outside of flight-free zones, to 14,500′ MSL, would be subject to special route and altitude regulations for separation of aircraft. In some cases, the space between flight-free zones is limited to 2-mile wide corridors in which any air tours and transient general aviation operations would be confined.

3. Retain the existing prohibition on operation of aircraft within 500 feet of any terrain or structure within the canyon.

4. Consider adoption of the "hemispherical rule" (§ 91.109), which specifies different altitudes for eastbound and westbound aircraft, for aircraft operation outside of the flight-free zones.

5. Modify or eliminate low-altitude Federal airways V-257, V-293, and V-210 to avoid the flight-free zones and preferably the entire Special Flight Rules Area. On a temporary basis while the matter is being studied, NPS recommended that V-257 and V-293 be relocated to travel between the Page VOR and the Tuba City VOR, and that V-210 be moved 5 miles south of its present location in the vicinity of the Park.

Exceptions to the restrictions contained in the recommendations would be allowed only in an emergency, in the case of inclement weather, or if otherwise necessary for safety of flight. The Manager

of the FAA Las Vegas Flight Standards District Office (FSDO) and the Superintendent, GCNP will jointly develop procedures to address these exceptions.

DOI also recommended that the FAA undertake several items that would not require rulemaking action at the present time. The action which the FAA will take in response to those recommendations is discussed in Notice 88-3.

## NOTICE OF PROPOSED RULEMAKING 88-3

In order to provide public notice of and opportunity for comment on the DOI recommendations, as those recommendations would be implemented by FAA regulation, the FAA issued Notice of Proposed Rulemaking 88-3 on February 29, 1988 (53 FR 7096; March 4, 1988). The FAA proposal substantially accepted the area boundaries, altitudes, and flight restrictions contained in the DOI recommendations.

However, the FAA's preliminary review identified certain aspects of the recommended plan which could have safety ramifications for aircraft operations. The proposal described the safety concerns and requested public comment on potential safety problems. The notice contained a proposed rule which differed from the DOI recommendations in some respects, notably the number and configuration of flight corridors, as a proposed means of resolving the safety problems discussed. Comments were requested on all aspects of the DOI recommendations and the FAA proposal.

### *FAA Finding of Adverse Impact on Safety*

On March 30, the FAA issued a formal finding that certain elements of the recommendations submitted by DOI, if adopted as received, would have an adverse impact on aviation safety. The FAA noted that the findings involved only a relatively small portion of the total recommendations made by DOI and that the FAA had accepted the DOI plan substantially as received.

A copy of the March 30 finding has been placed in the public docket. The FAA's safety concerns were summarized in the finding as follows:

1. A single, 2-mile-wide corridor ("Dragon corridor") is provided for southbound routing of all "circle" tours operating from Grand Canyon Airport and for a large number of tour flights operating from Las Vegas. DOI assumed, and the FAA agrees, that under the DOI plan the Grand Canyon Airport local tours would operate in a counter-clockwise direction, proceeding north through the Zuni Point Corridor, west across the Kaibab Plateau, and south through the Dragon corridor. Tours from Las Vegas would continue to cross Havasu Canyon and would then either proceed directly to Grand Canyon Airport or would turn northeast through the Fossil Canyon Corridor and south through the Dragon corridor. As a result, westbound circle tour traffic would meet a large proportion of eastbound Las Vegas traffic at the north end of the Dragon corridor. Opposite-direction flights would be turning into the same narrow strip of airspace. The direction of the turn would make observation of other aircraft difficult for pilots while in the turn, particularly from low-wing aircraft.

2. As a result of the reliance on the Dragon corridor and the configuration of that corridor, traffic exiting the corridor (near Cocopa Point) would merge with the Las Vegas traffic proceeding direct to Grand Canyon Airport from Havasu Canyon. These two streams of traffic include the large majority of arrivals at the Grand Canyon Airport, so the potential for traffic conflict in this area is significant.

3. The recommended plan eliminates the current route for straight-in approaches to Grand Canyon Airport Runway 21 from the northeast. As a result, more than 90 percent of arriving traffic would arrive at the edge of the airport traffic area in the same general location, with limited opportunity for altitude separation. (Terrain is approximately 7,000 feet MSL and air tour operations are limited to 10,000 feet MSL and below by passenger oxygen requirements.) This area is bounded on the north by the Bright Angel Flight Free Zone and, for practical purposes, is limited on the south by southwest departures during the typical Runway 21 operation. The funneling of arriving traffic (as many as 80 aircraft per hour in peak periods) into the same airspace west of the airport traffic not only would concentrate this traffic in a see-and-avoid environment but also would present the Grand Canyon Airport Air Traffic Control Tower with a problem in handling these arrivals.

4. The 2-mile width of the Zuni Point and Dragon corridors limits the room for separation of aircraft using those corridors. While not strictly a safety issue, navigation within the narrow corridors by transient pilots may not be practically attainable given the limited visual landmarks and lack of electronic navigation aids in certain areas of the canyon.

5. The Thunder River/Toroweap Flight-Free Zone has the effect of diverting north- and southbound traffic around the east or west ends of the zone. In the east, these flights would conflict with Las Vegas tour traffic using the western corridor northbound. On the west, the north/south traffic would conflict with operations into and out of Tuweep and Whitmore Airports. The fact that the frequency of the affected north/south flights may not be high does not diminish the importance of resolving the potential conflict.

6. The specification of a 7,500-foot MSL minimum flight altitude from Toroweap to Supai Point eliminates an additional flight stratum, from 6,500 feet MSL to 7,500 feet MSL, which would otherwise be available in this area. This airspace could be used to route flights to and from the Indian reservations, including river runner pickup operations, at an altitude different than that used by tour operations.

7. Application of the special rules to IFR operations, and relocation of the three affected Federal airways, would impact IFR access to Grand Canyon Airport and IFR transient traffic. It cannot be determined whether a satisfactory alternate route structure can be developed until potential routings off other VOR stations in the area have been planned and flight-checked.

For each of the above issues, possible solutions to the problem identified that did not involve modification of the recommended plan were found to be either not feasible or to present a different safety impact. Accordingly, some revision of the recommended measures was determined to be necessary to resolve these issues.

*FAA-Department of Interior Consultation*

In addition to continuing informal contacts, representatives of the FAA and the National Park Service met on April 27 to discuss the elements of a final rule. The regulation adopted by the FAA reflects the agreements reached at that meeting. On May 17, the Office of the Secretary of the Interior sent a letter to the FAA Administrator outlining DOI's understanding of the agreement, and noting that only one area of difference remained—the use of the Tuckup Corridor by commercial air tour operations. The final rule adopted establishes the Tuckup Corridor, but, as explained more fully below, the FAA will not authorize air tour routes through that corridor. Accordingly, the FAA and DOI are in agreement on the content of the final regulation adopted.

*Comments on Notice 88-8*

More than 100 comments were received on the NPRM. Comments received for a brief period after the comment period closing date of March 25, as well as those received during the comment period, were considered in the adoption of this rule.

Most comments expressed either an interest in reducing aircraft noise at the Grand Canyon National Park or an interest in avoiding unnecessary flight restrictions for aircraft operations. The comments are discussed below by general issue.

I. *Compliance with Public Law 100-91.* Many commenters stated that the FAA proposal was inconsistent with the purposes of Public Law 100-91, in that it reduced the area of flight-free zones and, consequently, the size of the area in which the "natural quiet" of the canyon would be restored. Some of these commenters were critical of DOI, for making any accommodation for aircraft overflight of the canyon, and requested that all flights over the Grand Canyon be banned.

The FAA agrees that the intent of Public Law 100-91 can be considered the creation of flight-free areas to make large areas of the Grand Canyon National Park substantially free of aircraft noise. The rule adopted achieves this purpose. However, it was not the intent of the legislation to ban aircraft from overflying the Grand Canyon. In this regard, the FAA believes that viewing of the canyon from the air is a legitimate and valuable means of appreciating the beauty of the Grand Canyon. This policy is supported by the legislative history of Public Law 100-91 and the objectives stated by DOI in its December recommendations to the FAA. The agency further believes that the resources of the canyon can be protected without an exclusion of aircraft, which would have a major adverse impact on air travel through this area of the southwest. It is the intent of the rule adopted to permit the continuation of aerial viewing of the canyon, and air travel through the area, in a manner consistent with the stated purposes of § 3 of Public Law 100-91 to substantially restore the natural quiet of the Grand Canyon within the boundaries of the national park.

II. *General configuration of the Special Flight Rules Area (SFRA).* Few comments objected to the area boundaries recommended by the DOI or those proposed by the FAA, which were identical in most respects. Several commenters objected to the FAA proposal to establish the northern boundary of the SFRA at the Grand Canyon National Park boundary. DOI recommended a boundary further to the north, which included lands outside of the park and well north of the canyon's north rim. Other commenters supported the FAA boundary, to minimize the restriction on flights through the area.

Because the Forest Service and the Bureau of Land Management have not objected to the recommended boundary, with suitable provisions for access, the FAA has adopted the northern boundary as recommended.

Several commenters objected to the inclusion of a large area around Marble Canyon, in the northeast part of the Grand Canyon National Park. Objections were that the area unnecessarily restricted flight operations in the area, particularly in and out of Marble Canyon and Cliff Dwellers Lodge Airports, even though there are no identified aircraft noise problems or complaints in this area. The FAA believes that the SFRA must extend to the northern limit of the Grand Canyon National Park as recommended. However, the FAA agrees that the width of the area originally recommended by DOI, which extends the SFRA beyond the boundaries of the canyon proper or the National Park, should be reduced to facilitate aerial access to the two airports and transit through the area. This action will have no effect on the prohibition of low-altitude flight above the canyon and no impact on noise-sensitive areas.

Several commenters objected to the general ceiling of 14,499 feet MSL, proposed by the FAA to coincide with the top of the flight-free zones recommended by DOI. Because flight is prohibited to that altitude only within the flight-free zones, this subject is discussed in more detail below in connection with those zones. Alternate altitudes suggested were 9,500 feet MSL and 11,500 feet MSL. The FAA continues to believe that while flight through the SFRA should be permitted (outside of the flight-free zones and above the minimum flight levels), general rules for the transit of air tour and transient aircraft through this airspace should be provided by special rule. Accordingly, the ceiling of 14,499 feet MSL proposed in the NPRM is adopted, to provide a uniform ceiling to the entire area and to designate an area in which special operating rules will apply.

III. *Flight-free zones.* A large number of commenters favored the flight-free zones recommended by DOI, and a small number requested larger zones to further restrict aircraft flight. A common comment was that the zones, in order to be effective in providing noise-free areas within the canyon, must be large. The flight corridors proposed by the FAA, it was argued, resulted in a large number of smaller zones that did not provide central noise-free areas, since no part of the canyon was far from aircraft flight paths. Specific comments on the flight-free zones primarily related to the flight corridors between them, which are discussed below. One commenter requested elimination of the Shinumo Flight-Free Zone altogether, because the zone substantially restricts aviation in that area with little environmental benefit, in consideration of the small number of persons that use the area.

It is the FAA's intent to adopt the DOI flight-free zones as recommended, subject only to adjustment of the adjacent flight corridors as necessary to assure safe aircraft operations. In the rule adopted, the flight-free zones are substantially identical to those recommended by DOI, and the flight corridors proposed by the FAA have been eliminated and/or modified to achieve large flight-free zones. In the case of the Toroweap/Thunder River Flight-Free Zone, an area 1½ miles in radius has been extended around the south side of Toroweap Overlook to provide a noise buffer to that point.

*Flight-free zones: ceiling.* FAA proposed the altitude recommended by DOI for the ceiling of the flight-free zones—14,499 feet MSL—specifying a limit one foot lower than 14,500 feet in order to permit use of that altitude. Some aviation commenters objected to the altitude as too high for safe operation and discriminatory toward general aviation operators, and suggested alternatives of 9,500 feet MSL and 11,500 feet MSL.

The FAA does not agree that the 14,499-foot altitude itself will result in unsafe operation. The altitude is simply too high for the performance and oxygen equipment of a large percentage of general aviation aircraft. Rather than encourage marginal operations over the top of the flight-free zones, therefore, the ceiling will, as DOI intended, require these aircraft to deviate around the zones. While potentially burdensome, particularly for transient general aviation operations, this requirement is not inherently unsafe and has been adopted.

In areas of the SFRA outside of the flight-free zones, the minimum altitudes range from 5,000 feet MSL to 10,000 feet MSL to permit transient operation through the area at altitudes separated from congested commercial tour routes.

IV. *Flight corridors.* The five 4-mile-wide flight corridors proposed by the FAA were addressed in virtually all of the comments received. Many commenters supported the three 2-mile-wide corridors recommended by DOI, and objected to the additional and wider corridors proposed by the FAA. Most of the comments on the FAA corridors were directed toward the "Shoshone Point Corridor" extending northeast from Grand Canyon Airport across the canyon. Several commenters suggested that alignment with VOR radials was not necessarily a benefit, since VOR signals often cannot be received at lower altitudes near the canyon due to terrain and distance from the stations. The FAA agrees and has reconfigured the corridors to rely on prominent terrain features as well as VOR signals, where possible.

*Shoshone Point Corridor.* Many commenters vehemently objected to the Shoshone Point Corridor because it crossed the canyon south rim near noise-sensitive overlooks, and because it passed over the canyon near popular trails used by a large number of Park visitors. The proposed corridor was in the center of the large Bright Angel Flight-Free Zone recommended by DOI, and would have diminished the noise benefits to be realized from that zone.

Pilots, aircraft operators and aviation organizations supported the purpose of the Shoshone Point Corridor—to relieve traffic conflicts at the north and south ends of the Dragon Corridor and to prevent an unacceptable concentration of arriving traffic at the western edge of the Grand Canyon Airport Traffic Area. Some of these commenters supported the Shoshone Point Corridor either without restriction, or with limitations to mitigate noise impact, including a limitation to one-way traffic descending for arrival at the airport from a relatively high altitude at low power settings.

Others commented that while there was a need to resolve the identified traffic conflicts to the west, the proposed Shoshone Point Corridor was simply too close to an environmentally sensitive area. One suggested alternative was a corridor that crossed Shoshone Point but extended much further to the east, to avoid the Bright Angel Trail and Phantom Ranch areas. This alternative is operationally feasible but was still objectionable to DOI because there would continue to be aircraft overflight of the central canyon area. Another alternative suggested was for aircraft proceeding southbound through the Dragon corridor to turn toward the airport after crossing the Colorado River. In conjunction with a widening of the north end of the Dragon Corridor, this would contribute to resolution of the conflicts identified by the FAA.

The rule adopted does not include the Shoshone Point Corridor. The FAA believes that, while the Shoshone Point Corridor was an ideal operational solution to certain safety problems with the DOI recommendations (in the Dragon Corridor and the approach to the airport traffic area), those problems can be resolved by alternate means. The alternate measures include a reconfiguration of the Dragon Corridor and special air traffic control procedures for arrivals and departures at Grand Canyon Airport. If at any time in the future it becomes apparent to the FAA that the alternate measures are insufficient to assure safety, the FAA would consider the option of approving airport approaches from the northeast over Shoshone Point until a new procedure could be developed.

*Zuni Point Corridor.* The FAA proposal placed a flight corridor between the Desert View and Bright Angel Flight Free Zones, as recommended by DOI, but modified the corridor by describing it in terms of VOR radials and DME arcs off the Grand Canyon VOR. Comments favored the simpler and more direct corridor recommended by DOI, and that version has been adopted in the final rule.

*Dragon Corridor.* Most of the aviation commenters had some comment on the Dragon Corridor ("Cocopa Point Corridor" in the NPRM). A number of commenters supported the FAA concern with conflicting traffic at the north end of the corridor, where eastbound and westbound traffic would meet head on while turning south into the 2-mile wide corridor, and at the south end of the corridor, where traffic exiting the corridor met flights inbound from Supai Point to Grand Canyon Airport. Commenters suggested several solutions to the problems identified, including use of the Shoshone Point Corridor; widening the north end of the Dragon Corridor; widening the entire Dragon Corridor; and routing traffic southbound in the Dragon Corridor direct to the Grand Canyon Airport after crossing the Colorado River. Some non-aviation commenters stated that any safety problems could be resolved within the configuration recommended by DOI, and that no changes to the corridor should be made.

The FAA believes that traffic can be accommodated in the general routing plan recommended by DOI, with modifications to the Dragon Corridor as recommended. First, the northern entry to the corridor will be centered on the Dragon rock formation. Both eastbound and westbound aircraft will be required to turn before reaching the Dragon, assuring that opposing direction flights will remain separated throughout the turn into the corridor. Tour operators are required to announce reaching the Dragon on a common radio frequency, so pilots will be aware of other flights in the corridor at the same altitude. Fixed-wing air tour flights will be limited to one-way southbound operations, and transient traffic will be limited to altitudes of 10,500 feet MSL or higher. Helicopter operations will be able to operate in 2-way traffic at a different altitude from any fixed-wing traffic.

Aviation commenters also supported the FAA's concern that exit from the south end of the corridor presented two related problems—the mixing of corridor traffic with other traffic arriving from Las Vegas, and the concentration of virtually all traffic arriving at Grand Canyon Airport at the same general location on the west side of the airport traffic area. Of the alternatives suggested, the FAA believes that with the elimination of the Shoshone Point Corridor, the only practical solution is to route traffic southbound in the Dragon Corridor direct to the Grand Canyon Airport from the Colorado River, effectively adding a small area to the corridor across the south canyon rim near Hermit's Rest (rather than Cocopa Point).

While this will result in an increase in aircraft noise in that area, there is a net benefit to the Park from the elimination of the Shoshone Point Corridor and the creation of a large Bright Angel Flight-Free Zone as recommended. Also, FAA will establish a dual procedure for air tour aircraft southbound in the Dragon Corridor. All arriving aircraft will contact the Grand Canyon Airport Tower as they cross the Colorado River. If traffic is light, the aircraft will be directed to continue in the corridor across Cocopa Point. If traffic is congested, the aircraft will be directed to proceed over the Hermit's Rest exit for a north base entry to the airport. Finally, because helicopters would operate between the airport and the south rim at an altitude below arriving fixed-wing traffic, helicopter operators could exit the Dragon Corridor at Cocopa Point and would not be permitted to proceed across Hermit's Rest. Therefore, operations in the Hermit's Rest area will be limited to the minimum number necessary for safe operation.

One commenter requested that the Dragon Corridor be configured so as to provide the maximum protection for Point Sublime, on the north canyon rim. The FAA and DOI have agreed on a new configuration of the Dragon Corridor that serves the aviation objectives described above, but which prevents aircraft from approaching closer than one mile to Point Sublime.

Finally, the Dragon Corridor will consist of two levels. A 2-mile-wide corridor centered on the Dragon at the north end and Cocopa Point at the south end, with the cutoff over Hermit's Rest, will be established from 7,500 feet MSL to 10,499 feet MSL for tour routes. A 4-mile-wide corridor centered on the Page VOR 203° magnetic radial will be established from 10,500 feet MSL to 14,499 feet MSL for transient operations. The distinct corridors permit precise navigation by tour operators based on prominent geographical features, with which they are familiar, and permit navigation by VOR by transient pilots who would not always be familiar with terrain features.

*Fossil Canyon Corridor.* DOI recommended, and the FAA proposed, the "Fossil Canyon Corridor" between Fossil Canyon and Timp Point near Steamboat Mountain. A few commenters suggested the corridor was unnecessary. However, the majority of commenters supported the corridor either because it was part of the DOI proposal, or because it was necessary for certain tour routes from Las Vegas. The final rule adopts this corridor as recommended by DOI.

*Tuckup Corridor.* The additional corridor through the Thunder River/Toroweap Flight-Free Zone proposed in the NPRM was opposed by commenters who supported the DOI recommendations. Aviation comments tended to be divided according to interest in north-south operations in this area. General aviation pilots and at least one tour operator expressed the need for a route through the area, while tour operators who would not personally use such a route commented that it was unnecessary. Information developed at the public hearings and submitted in the docket also indicated that the area is used by only a very few persons on an annual basis.

The FAA continues to believe there is a safety interest in routing north-south traffic directly through this area, to keep this traffic clear of activity around Tuweep Airport and the narrow northern end of the Fossil Canyon Corridor. The FAA agrees with comments that the corridor should be aligned on a north-south direction, to minimize the area affected and to avoid the Tuckup Canyon and Kanab

Creek areas, which are used on occasion by back country hikers. Accordingly, the Tuckup Corridor is adopted in a configuration which involves less area and which avoids noise-sensitive areas to the extent possible.

DOI, while agreeing that a corridor would improve safety for transient operations, opposed the use of the Tuckup Corridor for air tour flights. FAA believes that the transit of commercial air tour operations in the area can be safely accommodated by other measures, and will not authorize air tour routes through the corridor.

*Width of the flight corridors.* FAA proposed a corridor width of 4 miles, in contrast to the 2-mile width recommended by DOI. Many commenters objected to the wider corridors because of the corresponding reduction in the size of the flight-free zones, and the fact that aircraft would be somewhat closer to the noise-sensitive areas that DOI was seeking to protect. One tour operator supported the 2-mile-wide corridors, but virtually all other aviation commenters supported a width of 4 miles, or in several cases 5 or 8 miles. Commenters acknowledged that air tour pilots familiar with the canyon would have no difficulty navigating a 2-mile corridor, but argued that clouds, turbulence, and other weather conditions made it a practical necessity to have room to maneuver. Commenters representing transient pilot operations favored 4-mile or wider corridors because of the difficulty of locating a 2-mile-wide corridor over the canyon terrain.

Because air tour operations can normally be navigated within a 2-mile-wide corridor, the FAA is adopting corridors that will be 2 miles wide from the floor to 10,500 feet MSL and 4 miles wide from 10,500 feet MSL to 14,499 feet MSL. In general, 10,500 feet MSL is the lowest altitude that may be used by transient operations in the corridors and 9,500 feet MSL is the highest used by air tour operators. Air tour operators will be authorized to deviate from their routes if necessary to maintain safety of flight, but in general must operate within the 2-mile corridors.

The flight corridors will be charted as 4 miles wide with a floor of 10,500 feet MSL, since the charts are intended for the use of transient and general aviation operations. The 2-mile-wide corridors at lower altitudes will be included in tour operator operations specifications but will not otherwise be charted.

V. *Minimum flight altitudes.* A number of comments were received on DOI's and FAA's respective designations of rim level elevations in various sections of the Grand Canyon. In the NPRM, the FAA found that the rim level was slightly lower than the DOI recommended figures in 3 of the 4 sectors of the canyon. However, the DOI figures were adopted as minimum flight levels in all cases except between Toroweap and Supai Point, where the FAA level of 6,500 feet MSL was adopted in lieu of the DOI figure of 7,500 feet MSL.

A number of commenters objected to the FAA proposal for permitting flights below the canyon rim. Since the FAA proposal did not, in fact, propose to allow flights below the rim, the FAA assumes the commenters were reacting to some other party's characterization of the proposal and not to the FAA document itself.

Many commenters supported the higher DOI elevations, and two commenters requested levels higher than recommended by DOI in the Marble Canyon and west canyon areas. Aviation commenters supported the FAA rim level designations or, in some cases, altitudes lower than designated by the FAA, and requested that minimum flight altitudes be set at the designated rim level.

The FAA continues to believe that the rim level elevations proposed in the NPRM, with one change, are appropriate for aviation purposes. The exception is the area north of Boundary Ridge, where DOI found the rim level to be 6,000 feet MSL and FAA found it to be 5,500 feet MSL. One commenter noted, correctly, that the terrain slopes downward to the north along Marble Canyon, and that the area is more appropriately divided into two zones—6,000 feet MSL from Boundary Ridge to North Canyon; and 5,000 feet MSL from North Canyon to Lees Ferry. The FAA agrees with the comment, and the rim level determination is revised accordingly.

The higher altitudes recommended by DOI are adopted as minimum flight altitudes, without regard to rim elevation, with two exceptions. First, as proposed in the NPRM, the minimum flight altitude between Toroweap and Supai Point is 6,500 feet MSL rather than the 7,500 feet MSL recommended by DOI. This is in recognition of the lower terrain elevation in this area and the need for an additional flight stratum to safely accommodate air tour, transient, and river runner pickup operations that occur in this part of the canyon.

Second, a minimum flight altitude of 5,000 feet MSL is established for the area between North Canyon and Lees Ferry. Rim level elevation in this area varies from approximately 3,500 feet MSL to 5,000 feet MSL, and a minimum flight altitude higher than 5,000 feet MSL would interfere with safe access to Cliff Dwellers Lodge and Marble Canyon Airports. As it is, special procedures will be necessary to permit operations below "rim" level to land and take off at these airports. The minimum flight altitude of 6,000 feet MSL between Boundary Ridge and North Canyon is adopted as recommended.

VI. *Flight Restrictions: General.* In general, commenters supported the restrictions recommended by DOI and proposed by the FAA—basically, no flights below minimum flight levels or within the flight-free zones except for certain operations necessary for emergency services, park maintenance, and access to Indian reservation lands. The FAA is adopting the general restrictions as proposed in the NPRM, with certain exceptions based on requests that specific provisions apply in certain circumstances or certain area of the SFRA.

*Helicopters.* Helicopter operators and pilots commenting on the proposal made a number of requests for special provisions in the rule or associated procedures, including a revised Shoshone Point Corridor to the east of the corridor proposed by the FAA; 2-way traffic in flight corridors at the same altitude for helicopters; and designation of the lowest available altitudes for helicopters. As discussed above under "Flight Corridors," a Shoshone Point Corridor was rejected in favor of revisions to the Dragon Corridor and special procedures in the Grand Canyon Airport traffic area.

Two-way traffic at the same altitude is generally not permitted under the procedures adopted, in consideration of the general value of separating opposite-direction traffic and the narrowness of the corridors recommended by DOI. However, there is a safety benefit for helicopters, in that this procedure permits them to cross the canyon and return to the south rim without the necessity of crossing the north rim. The high terrain of the north rim presents an obstacle, particularly to aircraft whose performance begins to degrade at that altitude, and this procedure avoids one-way traffic toward the north rim at low altitude. The adopted procedure also will permit helicopter air tour operators to use a discrete altitude during all phases of flight on operations from Tusuyan, thereby avoiding potential conflict with fixed-wing traffic.

Accordingly, the FAA will specify 2-way same-altitude traffic only for helicopter air tour operations and only for operations to, from, and in the Dragon Corridor and Zuni Point Corridor. This procedure may be conducted safely due to the low airspeed and high visibility of helicopters, and due to the fact that the procedure will be authorized for only 2 commercial operators (at present) whose pilots are experienced with the operation and are in continuous communication on a common radio frequency.

The lowest available flight altitude in the part of the canyon traversed by the Dragon Corridor is 7,500 feet MSL. Fixed-wing tour flights will be entering the corridor only from the north, over the north canyon rim, and, therefore, will be at altitudes of at least 8,500 feet MSL. Accordingly, the altitude of 7,500 feet MSL is available for helicopter tours in the Dragon Corridor. It should be noted that this procedure will contain helicopter tours totally within an area and at an altitude specified for air tours in the original DOI recommendations.

*Winter operations in the vicinity of the north rim.* The Bright Angel Flight-Free Zone recommended by DOI, and adopted by the FAA, requires flights that now operate over the canyon to operate over the high terrain of the canyon's north rim area. Both fixed-wing and helicopter operators noted that clouds and low visibility above the north rim in the winter season make winter operation above that area undesirable. These operators urged that the FAA adopt a winter procedure permitting tour flights to operate at the same altitudes but slightly south of the north rim over the canyon, to avoid the terrain in low-visibility conditions. The commenters noted that, at that time of year, the north rim is inaccessible and the canyon floor is virtually unused; therefore, there is no noise impact of operations above the canyon for that limited time.

The National Park Service has noted that operations south of the north rim, over the canyon, would have a noise impact on the south rim, which is used throughout the year. Accordingly, NPS opposes the adjusted winter route through the canyon. Therefore, the FAA is not formally adopting a different procedure for winter tour operations. The FAA notes that the rule provides for deviations from the route, for purposes of safety, where unforeseen weather conditions prevent continued legal VFR operation on the approved route.

*Provisions for general aviation/transient flights.* Several general aviation commenters suggested that the plan recommended by DOI was discriminatory toward general aviation, because the 14,500-foot MSL ceiling of the flight-free zones effectively eliminated most general aviation aircraft from the area. The FAA agrees that that is the effect of the recommended ceiling. However, while the flight-free zones do interfere with flight through the area, the longer flight routes that result do not present a safety problem. Accordingly, the FAA has adopted the flight-free zones to the altitude recommended even though many aircraft will not be able to operate over the tops of the zones.

Several commenters requested that general aviation operators have access to the SFRA equivalent to that of commercial air tour operators, although not necessarily in the same airspace. Some tour operators specifically requested that general aviation and air tour flights be assigned separate altitudes and/or routings.

The final rule adopted provides a high degree of access for transient flight through the area, at altitudes that will keep transient and commercial tour operators in separate airspace. Within the flight-free zones, general aviation operations are subject to the same restrictions as commercial tour operations. Outside of the flight-free zones, the rule adopted provides separate altitudes for the use of commercial air tour aircraft and transient aircraft in the four flight corridors and in most other areas. The FAA estimates that approximately 85% of the flights through the SFRA are commercial air tours, using specific procedures approved by the FAA Flight Standards District Office. Transient pilots cannot in all cases be expected to navigate the corridors with the precision of the air tour pilots, or to be as familiar with potential emergency landing sites. The FAA continues to believe, therefore, that assignment of the lower flight altitudes to the air tour operators and the next higher altitudes to transient operators is a fair and reasonable allocation of the limited airspace available.

Both air tour and transient flight altitudes have been adjusted upward as a result of the higher minimum flight altitudes recommended by DOI. The minimum altitudes that may be provided for tour operators in their operations specifications are as discussed above under "Minimum Flight Altitudes." Minimum altitudes for transient operations are 8,000 feet MSL west of Diamond Creek; 9,000 feet MSL from Diamond Creek to Supai Point: 10,000 feet MSL from Supai Point to Boundary Ridge; and the same as for tour operations from Boundary Ridge to Lees Ferry (6,000 feet MSL south of North Canyon and 5,000 feet MSL north of North Canyon). Minimum altitudes charted will be those applicable to transient operations.

Above these altitudes, and outside of corridors and flight-free zones, transient operations are not restricted to any particular route while in the SFRA. The FAA specifically requests comments on whether the rules adopted provide sufficient access through the area for transient operators, and at the same time provide sufficient separation of transient and air tour operations.

*Flights to and over areas outside the Grand Canyon National Park.* DOI recommended a SFRA similar to that in effect under SFAR 50-1, which includes areas outside of the National Park boundaries. Comments were received from the two Indian tribes whose reservations are partly within the SFRA, and from the Bureau of Land Management (BLM) of the Department of the Interior, which administers land north of the Grand Canyon. Legal counsel for the Havasupai Tribe objected to the routing of tour flights over the reservation that results from the prohibition of flights over the Park. The tribe requested continued air access to the reservation for limited purposes within the control of the tribe.

The Truxton Canyon Agency of the Bureau of Indian Affairs, on behalf of the Hualapai Indian Tribe, objected to any limitation on flights above the Hualapai Reservation for purposes of the management objectives of the Grand Canyon National Park. The tribe requested unrestricted air access to the reservation for flights sanctioned by the tribe. BLM commented that inclusion of its lands within the SFRA, under the restrictions contained in the proposal, would adversely affect the ability of BLM and other affected Federal agencies to meet mandatory management responsibilities.

With respect to tour routes over the Havasupai Reservation, the FAA does not anticipate that tour routes under the rule adopted will be significantly different from those currently in use over the reservation area. However, the FAA invites tribal representatives to contact the Flight Standards District Office to provide information on areas of the reservation in which the tribe objects to overflights. To the extent practically consistent with safety, these preferences will be incorporated in the tour routes specified in the operators' operations specifications.

On the issue of aerial access to lands within the SFRA, it is the intent of the FAA to ensure access to lands outside of the Grand Canyon National Park at the discretion of the landowner or responsible

land administration agency. Aircraft operated by or under contract to the tribe or agency will have access to all points within the affected lands, under an authorization issued by the Flight Standards District Office. The authorization would normally specify direct entry and exit routes and would limit flights within flight-free zones to those necessary. Agencies such as BLM and the U.S. Forest Service, with aerial surveillance responsibilities, would be authorized for general unrestricted overflight by agency or contractor aircraft.

*Limitation on the number of tour flights.* Several commenters suggested that FAA limit the number of flights in the vicinity of the Park, either as a means of reducing aircraft noise or as a solution to the safety problems discussed in the NPRM. DOI did not include a recommendation to limit or reduce the number of flights, and the FAA does not find any independent justification for such a program, which would be difficult to administer. Also, a reduction in the number of flights (short of a total ban, which was not contemplated by Congress or DOI) is not an adequate solution to the safety problems identified.

*Access to GCN.* Several aviation commenters objected to any restriction on access to Grand Canyon National Park Airport. The Bright Angel Flight-Free Zone recommended by DOI creates a 7,000 foot barrier 5 miles north of the airport, from approximately the 300° radial on the northwest to the 070° radial on the northeast. The restriction on access to the airport from the north was intended by DOI, to provide noise mitigation to the south rim overlooks and the heavily used areas of the central canyon. To the extent the recommended restriction was an inconvenience for aircraft arriving from the north (or on air tours from the west), but not unsafe, Public Law 100-91 required that the recommendation be adopted without change.

The safety problem with the recommendation identified by the FAA was not with the existence of the flight-free zone itself, but rather with the side-effect of requiring all arriving traffic to approach the airport from the remaining unrestricted quadrants. In actuality, virtually all arriving traffic comes from Las Vegas or other points to the west. Deprived of the option of circling over the canyon and approaching the airport from the northeast, on a straight-in approach to Runway 21, these flights will enter the airport traffic area from the west side. The airspace used by these arrivals is limited on the north by the 300° radial, which defines the Bright Angel Flight-Free Zone, and on the south by the departure traffic taking off from Runway 21 (approximately the 210° radial). Usable altitudes are similarly limited by the high terrain.

The Shoshone Point Corridor proposed by the FAA in Notice 88-3 would be a simple and effective solution to this situation. However, in view of objections to the corridor by DOI and many public commenters, due to its potential noise impact on the central canyon area, the FAA has adopted an alternate solution. First, as discussed above, the Dragon Corridor will be reconfigured to bring fixed-wing tour aircraft into the airport traffic area over the Hermits Rest area.

Second, special procedures will be applied for commercial operators approaching the Grand Canyon Airport. Each commercial operator authorized to conduct air tours in the SFRA will be required to enter into a letter of agreement with the Grand Canyon Air Traffic Control Tower for arrival and departure procedures. The operator's operations specifications will incorporate this requirement and incorporate the resulting agreement by reference. The procedures thus established will not be burdensome for operators, but will ensure that (i) arriving flights contact the tower in advance of arriving at the airport traffic area, for sequencing; (ii) arriving flights will be distributed in a pattern that permits efficient handling by the tower; and (iii) there is no conflict between arrival and departure patterns.

Because transient operations are a relatively small portion of total Grand Canyon Airport operations, no special procedures will be established for transient arrivals at this time. However, if the need arises, the FAA may establish such procedures in the future.

*Airways/IFR.* In the NPRM, the FAA proposed to apply the recommended restrictions to Instrument Flight Rules (IFR) operations, but deferred a decision on the relocation of Federal Airways that currently cross the Grand Canyon. Many commenters supported the DOI recommendations and urged that the airways be moved. Aviation commenters generally requested that the airways be retained and that IFR operations not be affected by new rules. Some of these commenters felt strongly that surface exposure to aircraft noise (at altitudes of more than 9,000 feet MSL or 7,000 feet above the surface) did not justify elimination of IFR operations through the area.

DOI has affirmed its interest in relocation of the airways to avoid overflight of certain areas of the Grand Canyon National Park. The FAA is not rejecting the recommendation, but is unable to alter

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the airway structure within the time frame required for this rulemaking by Public Law 100-91. In order to revise the airway structure as requested, the FAA will need to determine whether alternate airways can meet IFR traffic needs in this area. If not, relocation of the airways would require that FAA develop and flight-check alternate routes off existing VOR stations and/or establish one or more additional VOR stations to support new airways.

Not all routes between facilities in this area are available, because terrain and magnetic disturbances render signals unusable. Accordingly, the FAA is unable to determine the feasibility of relocating all airways as requested. At this time, however, the FAA intends to begin processing three new airways: (i) between the Page VOR and Tuba City VOR, to provide a low-altitude alternate to Airway V-293 that does not pass through the SFRA; (ii) between Tuba City VOR and Grand Canyon VOR with a slight dogleg to the south to avoid the Desert View Flight-Free Zone; and (iii) between Peach Springs VOR and St. George VOR.

In the interim, the FAA has adopted a regulation that is applicable to IFR operations, with an exception for pilots who are complying with ATC instructions. This provision is intended primarily to permit the descent through 14,500 feet MSL by aircraft approaching Las Vegas, and under the control of Las Vegas Approach Control. Descents would normally not be below 14,500 feet until west of Rent Intersection.

The rule would require transient IFR operations using one of the 3 airways through the area to remain at altitudes of 14,500 feet MSL or higher. Aircraft unable to use these altitudes would be required to file for a different route to avoid the SFRA. The effective date of the applicability of the rule to IFR operations will be April 6, 1989, to permit time for the alternate airways to be established. The delayed effective date will have little environmental impact because of the small number of transient low-altitude IFR operations through the area in the winter months.

*Military operations.* The Department of the Air Force, through the Representative to the FAA Western Pacific Region, concurred with the general purpose and concept of the DOI recommendations, but noted specific problems for the Air Force that would result. Specifically, the SFRA and flight-free zones would prohibit or require modification of several low-level military training routes through the area. These routes generally pass along the edge of the canyon area and not over central or especially noise-sensitive locations. The Air Force requested an exemption or waiver of the rules to permit some degree of military training on or near existing routes.

It is FAA's understanding that DOI is in agreement that some level of military training on the periphery of the regulated area is highly important to the military and will have no significant effect on noise levels in the Park. Accordingly, the FAA is in the process of discussions with DOI and the Air Force on the Air Force's request.

*Weather deviations.* Several commenters, including both helicopter and fixed-wing aircraft operators, noted the special problems with operating an aircraft in the canyon area presented by weather conditions characteristic of the area. Examples cited were strong gusty winds and thermals; thunderstorms and rain squalls; and in winter, snow squalls and low visibility. In the absence of flight restrictions, pilots have the flexibility to maneuver to avoid unforeseen conditions. SFAR 50-1 substantially retained this flexibility by permitting flight on an east-west route above the central canyon area. The restrictions recommended by DOI, by eliminating the east-west route and requiring most flights to cross the north rim, and by restricting flights to 2-mile-wide flight corridors, greatly reduce the ability of pilots to avoid weather conditions.

The FAA has essentially adopted the configuration of the flight-free zones and flight corridors recommended by DOI, and there will be no east-west flight route over the canyon area below 14,500 feet MSL. The rule maintains safety in two ways. First, helicopter air tours will be permitted to reverse direction in the Dragon Corridor and return to the south rim at the same altitude, avoiding the necessity of climbing over the north rim. Second, the rule provides that pilots may deviate from course to maintain safety of flight in the avoidance of other aircraft or unsafe weather conditions.

VII. *Public process.* Several commenters objected to the relatively brief comment period (24 days) and to the issuance of the notice only one day prior to the hearings. The expedited rulemaking timetable in this case was necessitated by the relatively brief time period provided by Public Law 100-91. Notice of the public meetings was provided by publication in the *Federal Register*, on February 8, as early as the reservation of facilities could be confirmed. Also, the comment period was open as long as possible before the next agency action was required under Public Law 100-91, on March 28.

VIII. *Effective date.* Several commenters requested that the effective date of the final rule be delayed until September or October 1988, to avoid a substantial change in the tour routes and procedures in the middle of the busy summer season.

The FAA agrees that a changover in the tour routes and transient procedures in the summer would not be consistent with safety. Also, the next sectional aeronautical chart that includes the Grand Canyon area will not be published until late September, so it would not be feasible to provide notice to transient pilots of the new procedures before that time. It would be unacceptable from a safety standpoint to implement a substantial change in flight procedures before the new procedures could be shown on charts.

Finally, the implementation of certain aspects of the regulation adopted will require additional time. Each of the tour operators will need to submit to the Flight Standards District Office its proposed tour routes under the new rules. The FSDO must then reconcile the routes and, in coordination with the operators, determine the final tour routes that will be specified in each operator's operations specifications. Also, each of the major tour operators will be required to enter into a letter of agreement with the Grand Canyon Airport Control Tower. Development of the letters of agreement cannot be made final until operators are relatively certain of the details of their respective tour routes. Accordingly, both the FSDO and the air traffic personnel will benefit from the time to develop adequate procedures.

In consideration of the above, the FAA is making the regulation effective on September 22, 1988, coincident with publication of the sectional chart including the new regulations and procedures. As noted above, the effective date for applicability of the rule to IFR operations will be April 6, 1989.

## THE SPECIAL FEDERAL AVIATION REGULATION

In consideration of the comments received in response to Notice 88-3, and after extensive consultation with the Office of the Secretary of the Interior in accordance with Section 3.(b)(2) of Public Law 100-91, the FAA is adopting an amendment to Special Federal Aviation Regulation (SFAR) 50-1 to implement recommendations submitted by the Department of the Interior pursuant to Section 3.(b)(1) of that law. To the extent the rule adopted varies from the DOI recommendations, the FAA has sought to develop alternative measures which are acceptable to DOI and which promote the purposes of Public Law 100-91. DOI has participated in this effort, and the final rule has received the general approval of the Office of the Secretary of the Interior. In summary, the amendments will do the following:

1. Raise the ceiling of the Grand Canyon National Park Special Flight Rules Area from 9,000 feet MSL to but not including 14,500 feet MSL. The restrictions that apply in the airspace will be essentially as requested by DOI.

2. Alter the boundaries of the existing Special Flight Rules Area to include the northeast extension of the canyon to Lees Ferry.

3. Prohibit operation by aircraft below certain minimum altitudes, with specific exceptions that provide for the limited exceptions contained in Public Law 100-91: (a) NPS administrative flights; (b) flights required for the transportation of persons and supplies to and from Supai Village and the lands of the Havasupai Indian Tribe of Arizona, and (c) flights that operate on a direct route between a point on the North Rim outside of the Park and locations on the Hualapai Indian Reservation (as designated by the tribe) and whose sole purpose is transporting individuals to or from boat trips on the Colorado River and any guide of such a trip.

Minimum allowable flight altitudes in each of 5 sectors of the canyon are (1) 5,000 feet MSL for the eastern section from Lees Ferry to North Canyon; (2) 6,000 feet MSL from the North Canyon to Boundary Ridge, where the Grand Canyon visibly begins to widen; (3) 7,500 feet MSL from Boundary Ridge to Supai Point (Yumtheska Point); (4) 6,500 feet MSL from Supai Point to Diamond Creek; and (5) 5,000 feet MSL for the western section from Diamond Creek to the Grand Wash Cliffs.

Higher minimum flight altitudes are specified for transient general aviation operations outside of flight-free zones and flight corridors between Grand Wash Cliffs to Boundary Ridge: (1) 10,000 feet MSL from Boundary Ridge to Supai Point (Yumtheska Point); (2) 9,000 feet MSL from Supai Point to Diamond Creek; and (3) 8,000 feet MSL for the western section from Diamond Creek to the Grand Wash Cliffs.

4. Prohibit operation in four "flight-free zones" unless necessary for the purposes enumerated in paragraph 3 above for flight below minimum flight altitudes. The flight-free zones are:

(a) *Desert View Flight Free-Zone.* An area around the Desert View Overlook. The area between the Desert View and Bright Angel/Shinumo Flight-Free Zones is designated the "Zuni Point Corridor."

(b) *Bright Angel Flight-Free Zone.* An area substantially identical to the Bright Angel Flight-Free Zone recommended by DOI.

(c) *Shinumo Flight-Free Zone.* An area substantially identical to the Shinumo Flight-Free Zone recommended by DOI. The Dragon Corridor would be in the same location as the central flight corridor recommended by DOI, but would be widened at the north end and would incorporate an additional routing from the Colorado River southeast over Hermits Rest.

(d) *Toroweap/Thunder River Flight Free Zone.* An area nearly identical to the Toroweap/Thunder River Flight-Free Zone recommended by DOI, except for an additional north-south flight corridor west of Havasu Canyon. ("Tuckup Corridor"). The flight corridor between the Bright Angel/Shinumo and Toroweap/Thunder River Flight-Free Zones ("Fossil Canyon Corridor") would be retained substantially as recommended by DOI.

A total of four corridors for aircraft flight above minimum flight altitudes are provided through or between the zones. The description of the zones in some cases has been modified to use aviation terminology and references to navigation aids, where possible. Except for the Tuckup Corridor west of Havasu Canyon, and the modifications to the Dragon Corridor, the boundaries and area coverage of the zones are essentially as recommended by DOI.

5. Specify routes and altitudes for operation in the four corridors between and through the flight-free zones and outside of the zones. The procedures replace the transient routes contained in SFAR 50-1.

6. Retain the existing prohibition on flight closer than 500 feet to any terrain or structure in the canyon, except when necessary or when specifically authorized for certain purposes.

7. Retain the existing requirement to monitor a common frequency in each sector of the canyon. The requirement for air tour operators and othe specially authorized flights to make position reports is deleted from the rule as unnecessary, because it is included in the authorizations for these operators.

*Comment period*

This action is a final rule. However, because the rule includes specific details that were discussed only by general subject in the notice, a comment period is being provided. Comments received will be used in any consideration of future changes to the rule. Comments on the rule are due by August 1, 1988. Comments may be sent to the address listed under "ADDRESSES" above.

## ENVIRONMENTAL REVIEW

An environmental assessment of the rule adopted and a Finding of No Significant Impact have been placed in the rules docket. In summary, the assessment concluded that, as a result of the rule adopted, certain areas of the Grand Canyon will receive less aircraft noise than under existing regulations, and others, in particular the Hermits Rest area of the south canyon rim, would receive a slight increase in perceived aircraft noise. However, in consideration of the volume of traffic, the altitude of flight routes, and the noise characteristics of the aircraft typically used in canyon flights, the FAA has determined that no significant environmental impact will result from the new rules.

## ECONOMIC EVALUATION

The Department of the Interior, in developing the recommendations submitted under Public Law 100-91, prepared a cost-benefit analysis of the proposal. This analysis was submitted with the DOI recommendations on December 29 and has been included in the FAA public docket for this rulemaking. The DOI analysis concluded that, on balance, in view of the minimal cost expected to the air tour operators and the significant benefits to park resources and visitors, the rules recommended by DOI would be cost-beneficial.

*FAA Evaluation*

The FAA does not have quantitative information that would tend to either support or alter the conclusions of the DOI analysis. Several air tour operators commented that the DOI recommendations, if implemented, would have an adverse economic effect on their business.

The FAA may not consider economic impact in this rulemaking. Accordingly, comments on the economic impacts of the regulation have been included in the docket but have not been addressed.

*Regulatory Flexibility*

The Regulatory Flexibility Act of 1980 requires agencies to identify rules that will have a significant economic impact on small entities, including small businesses. The annualized threshold of significant economic impact for a Part 135 air taxi with 9 or fewer aircraft is considered by the FAA to be $3,700 (in 1986 dollars). On information currently available, the FAA cannot certify that the rule would not have a significant effect on a substantial number of small entities. However, the FAA has not conducted a regulatory flexibility analysis of the rule because the provisions of Public Law 100-91 preclude the adoption of alternative measures.

For the reasons set forth above, the FAA has determined that this amendment (1) is not a major rule under Executive Order 12291, and (2) is not considered significant under Department of Transportation Regulatory Policies and Procedures (44 FR 11024, February 26, 1979).

*Federalism Determination*

The amendment set forth herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. The regulations set forth in this notice would be promulgated pursuant to the authority in the Federal Aviation Act of 1958, as amended (49 U.S.C. 1301, *et seq.*), which has been construed to preempt state law regulating the same subject. Therefore, in accordance with Executive Order 12612, it is determined that this regulation does not have federalism implications warranting the preparation of a Federalism Assessment.

## ADOPTION OF THE SPECIAL FEDERAL AVIATION REGULATION

For the reasons set out above, 14 CFR Parts 91 and 135 are amended by redesignating Special Federal Aviation Regulation No. 50-1 as Special Federal Federal Aviation Regulation 50-2 and revising it effective September 22, 1988.

The authority citation for Part 91 continues to read as follows:

*Authority:* 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421, 1422 through 1431, 1471, 1472, 1502, 1510, 1522, and 2121 through 2125; Articles 12, 29, 31, and 32(a) of the Convention on International Civil Aviation (61 Stat. 1180); 42 U.S.C. 4321 *et seq.*; E.O. 11514; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).

## Special Federal Aviation Regulation 50-2
## (Amended)

## Special Flight Rules in the Vicinity of the Grand Canyon National Park

**Adopted: September 20, 1988** **Effective: September 22, 1988**

(Published in 53 FR 36946, September 22, 1988)

SUMMARY: On June 2, 1988, the FAA published a final rule that will restrict aircraft flights within a special flight rules area in the vicinity of the Grand Canyon National Park. This action amends the final rule to provide that commercial operators that provide air tours in the Special Flight Rules Area will continue their current tour routes through October 31, 1988. The extended time before the transition to the new tour routes will enhance safety by providing additional time for pilot training and certification. This amendment only delays the transition to the new routes by the commercial tour operators and does not affect the other portions of the rule which restrict operations by all other classes of operators other than commercial tour operators.

FOR FURTHER INFORMATION CONTACT:

David L. Bennett Office of the Chief Counsel, AGC-230, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC. 20591, Telephone: (202) 267-3491.

SUPPLEMENTARY INFORMATION:

On May 27, 1988, the FAA issued Special Federal Aviation Regulation (SFAR) 50-2 (53 FR 20264, June 2, 1988), a special federal aviation regulation revising prior flight regulations in the vicinity of the Grand Canyon National Park. SFAR 50-2 substantially adopted the recommendations of the Secretary of the Interior, submitted to the FAA in accordance with Section 3 of Public Law 100-91.

In summary, SFAR 50-2: (1) Establishes a Special Flight Rules Area from the surface to but not including 14,500 feet MSL in the area of the Grand Canyon; (2) prohibits flights below a certain altitude in each of five sectors of this area, with certain exceptions; (3) establishes flight-free zones from the surface to 14,500 feet MSL above large areas of the Park; (4) provides for routes for commercial tour operators and transient operators through the canyon area; and (5) retains certain existing terrain avoidance and communications requirements for flights in the area.

When SFAR 50-2 was published, the FAA requested comments on the final rule to provide interested persons an additional opportunity to comment on the details of the rule adopted.

By letter dated August 24, 1988, Scenic Airlines, Inc., and thirteen other operators, petitioned the Federal Aviation Administration (FAA) for exemption from Special Federal Aviation Regulation (SFAR) SFAR 50-2 to extend the effective date of the regulation from September 22, 1988 to November 15, 1988. Other operators also submitted petitions to postpone the effective date of the rule to November 15, 1988.

Petitioners stated that the tour industry had no advance notice of the route changes under SFAR 50-2. The petitioners further stated that the majority of tour operators in the area will be unable to complete the training of their pilots by the effective date of the rule as originally proposed. Due to the inability of the tour operators to conduct the necessary training, the operators will not be able to satisfy the required FAA route checks in accordance with the operations specifications in order to operate in the Special Flight Rules Area within the Grand Canyon airspace by September 22, 1988.

The pilot training on the new routes is being conducted while the old routes are being flown by the commercial tour operators. The petitioners have expressed concern that the use of the two different routes simultaneously may cause conflicting traffic. They point to the fact that commercial tour operation traffic is quite heavy now, but should lighten in the next few months. Therefore, the extension of the time in which the new routes become effective will permit the pilots to train on the new routes in an environment where the air traffic will be less heavy, thereby minimizing any potentially, conflicting traffic.

Based on the representations by the petitioners as to the number of flights planned during September and October, the FAA finds that safety would be significantly enhanced by an extension of the time available for operators to prepare and train on the new routes in a period of decreased traffic, prior to the transition of these routes as required by SFAR 50-2. Therefore, for commercial air tour flights conducted in the Special Flight Rules Area in accordance with 14 CFR Part 135 operations specifications,

the FAA agrees that a delay of the implementation of the new tour routes until November 1, 1988, is in the public interest. However, those operators must continue to operate in accordance with the operations specifications issued under SFAR 50-1 until November 1, 1988.

## THE RULE

This amendment amends Section 3(c) of SFAR 50-2 relating to those Part 135 operators whose operations specifications authorize air tour flights within the Grand Canyon National Park Special Flight Rules Area. The effect of the rule is to delay the transition to new tour routes under SFAR 50-2 for such operators until November 1, 1988.

In order to obtain the safety benefits of the delay in implementation of the new tour routes under SFAR 50-2, this amendment must be issued prior to September 22, 1988. This does not allow time for publication of a notice for proposed rulemaking and for a comment period. For this reason, I find that notice and public procedure under 5 U.S.C. 553(b) are impracticable and contrary to the public interest. For the same reasons, I find that good cause exists for making this amendment effective in less than 30 days.

## ENVIRONMENTAL ASSESSMENT

An environmental assessment of SFAR 50-2 and a Finding of No Significant Impact have been placed in the rules docket. As this amendment simply delays briefly the implementation date for the tour operators in the areas of the Grand Canyon, the FAA has determined that no significant environmental impact will result from the new rules.

## ECONOMIC EVALUATION

The Department of the Interior, in developing the recommendations submitted under Pub. L. 100-91, prepared a cost-benefit analysis of the proposal. This analysis was submitted with the DOI recommendations on December 29 and has been included in the FAA public docket for SFAR 50-2. The DOI analysis concluded that, on balance, in view of the minimal cost expected to the air tour operators and the significant benefits to park resources and visitors, the rules recommended by DOI would be cost-beneficial. This amendment does not affect that assessment.

## REGULATORY FLEXIBILITY

The Regulatory Flexibility Act of 1980 requires agencies to identify rules that will have a significant economic impact on small entities, including small businesses. The annualized threshold of significant economic impact for a Part 135 air taxi with 9 or fewer aircraft is considered by the FAA to be $3,700 (in 1986 dollars). For reasons discussed in the preamble to SFAR 50-2, the FAA cannot certify that SFAR 50-2 rule would not have a significant effect on a substantial number of small entities. The FAA has not conducted a regulatory flexibility analysis of the proposed rule because the provisions of Pub. L. 100-91 preclude the adoption of alternative measures.

For the reasons set forth above, the FAA has determined that this proposed amendment (1) Is not a major rule under Executive Order 12291, and (2) is not considered significant under Department of Transportation Regulatory Policies and Procedures (44 FR 11024; February 26, 1979).

## FEDERALISM DETERMINATION

The amendment set forth herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation does not have federalism implications warranting the preparation of a Federalism Assessment.

For the reasons set out above, the Federal Aviation Administration is amending 14 CFR Parts 91 and 135 effective September 22, 1988.

The authority citation for Part 91 continues to read as follows:

*Authority:* 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421, 1422 through 1431, 1471, 1472, 1502, 1510, 1522, and 2121 through 2125; Articles 12, 29, 31, and 32(a) of the Convention on International Civil Aviation (61 Stat. 1180); 42 U.S.C. 4321 *et seq.*; E.O. 11514; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).

## Special Federal Aviation Regulation 50-2

## Special Flight Rules in the Vicinity of the Grand Canyon National Park

**Adopted: March 17, 1989** **Effective: April 6, 1989**

**(Published in 54 FR 11926, March 22, 1989)**

SUMMARY: In May 1988, the FAA issued a final rule for the operation of aircraft in the airspace above the Grand Canyon up to an altitude of 14,500 feet above mean sea level (MSL), with an effective date of September 22, 1988. The regulations were adopted to comply with recent legislation requiring additional flight regulations based on the recommendations of the U.S. Department of the Interior. The FAA requested comments on the final rule at the time it was published. This action establishes a corridor into the airport on the Hualapai Indian Reservation and simplifies the configuration of a flight corridor in the vicinity of Dragon Butte in the central canyon.

FOR FURTHER INFORMATION CONTACT: David L. Bennett, Office of the Chief Counsel, AGC-230, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591; Telephone: (202) 267-3491.

SUPPLEMENTAL INFORMATION:

*Availability of Document*

Any person may obtain a copy of this document by submitting a request to the Federal Aviation Administration, Office of Public Affairs, APA-200, 800 Independence Avenue, SW., Washington, D.C. 20591; or by calling (202) 267-3479. Communications must identify the special rule number of the document.

*Background*

On May 27, 1987, the FAA issued SFAR 50-2 (53 FR 20264, June 2, 1988), a special federal aviation regulation revising prior flight regulations in the vicinity of the Grand Canyon National Park. SFAR 50-2 substantially adopted the recommendations of the Secretary of the Interior, submitted to the FAA in accordance with Section 3 of Public Law 100-91.

In summary, SFAR 50-2: (1) Establishes a Special Flight Rules Area from the surface to but not including 14,500 feet MSL in the area of the Grand Canyon; (2) prohibits flights below a certain altitude in each of five sectors of this area, with certain exceptions; (3) establishes flight-free zones from the surface to 14,500 feet MSL above large areas of the Park; (4) provides for routes for commercial tour operators and transient operators through the canyon area; and (5) retains local requirements for terrain avoidance and communications established by SFAR 50-1.

When SFAR 50-2 was published, the FAA requested comments on the final rule to provide interested persons an additional opportunity to comment on the details of the rule adopted.

*Comments on SFAR 50-2*

Five comments were received on SFAR 50-2 during the comment period. Commercial helicopter operators requested that the effective date of the rule be delayed from September 22 to a date in November 1988. The reason given was that air route tour traffic does not drop off significantly from peak summer levels until November. The commenters stated that it would be difficult for tour pilots to train for and transition to a new route structure in the course of high-volume tour operations.

Upon consideration of the comments, the FAA extended the compliance date of SFAR 50-2 for the tour operators until November 1, 1988, in order for the operators to permit their pilots additional time to train on the new routes in a less congested operating environment. The extension was published in the *Federal Register* on September 22, 1988 (53 FR 36946).

Helicopter operators also requested clarification of the altitudes in the Dragon Corridor. In the preamble to the final rule, the FAA noted that helicopters would be assigned the altitude of 7,500 feet MSL in the Dragon Corridor, for both northbound and southbound operations, and that

fixed-wing aircraft would enter the corridor from the north at 8,500 feet MSL. The helicopter operators requested specific clarification that fixed-wing operators would not be permitted to descend below 8,500 feet MSL in the corridor.

Fixed-wing air tour operations in the Dragon Corridor will be maintained at an altitude of 8,500 feet MSL, in accordance with restrictions in the operations specifications of the affected operators. Accordingly, no clarification in the regulatory language is necessary.

One helicopter operator commented that the regulated airspace extended far beyond the boundaries of the Grand Canyon National Park, and that the regulation was not required or authorized by Pub.L. 100-91 to that extent. Section 3 of Pub.L. 100-91 refers to the Grand Canyon, rather than Grand Canyon National Park, and the FAA continues to interpret the legislation as authorizing restrictions in areas reasonably necessary to reduce noise impacts on the canyon. In some areas the Special Flight Rules Area (SFRA) boundaries are several miles from the canyon rim, primarily as a result of an effort to simplify the boundary lines and align them with local navigation aids. Operations are not unnecessarily restricted in these areas, however.

The Forest Service of the Department of Agriculture commented that FAA had disregarded its previous comment, filed in March 1988, objecting to the northern boundary of the SFRA. The Forest Service renewed its objection, on the basis that the SFRA restricted operations by the Forest Service and its contractors over lands administered by the Forest Service. The FAA agrees that the Forest Service should have unrestricted air access to all of the lands under its administration. This can be accomplished by authorization from the Las Vegas Flight Standards District Office. The FAA does not agree that it is necessary to amend the northern boundary of the SFRA, however.

One commenter expressed several environmentally oriented concerns about specific provisions of SFAR 50-2. First, while the FAA expressed an intent to afford some protection for Point Imperial, the final rule did not restrict the airspace at that location. The Department of the Interior (DOI), in its recommendations to the FAA, requested a large flight-free zone extending across the canyon north of the North Rim Overlook, but did not recommend a flight-free zone around Point Imperial. With the establishment of the Bright Angel Flight-Free Zone in SFAR 50-2, some air traffic will necessarily be diverted across the Kaibab Plateau. However, the FAA has established tour routes that avoid Point Imperial within a radius of at least one mile.

This commenter further requested that the overall number of tour flights over the Grand Canyon be limited. A reduction in the number of flights would be a complex regulatory undertaking, since flights would need to be regulated from all possible originating airports, and a legally sufficient allocation mechanism would be required for the flights permitted. The benefit to a reduction in flights, in terms of the actual degree of noise reduction which might result, is unknown. For these reasons, the FAA has not adopted a limitation on flights.

The same commenter requested that high-level jet routes be relocated away from the Grand Canyon National Park. The FAA will consider the relocation of jet routes following the 2-year study of aircraft overflight of the park now being undertaken by the National Park Service.

The commenter also requested that the Dragon Corridor be relocated to the west to avoid aircraft noise impacts on the Boucher Trail, Hermit Trail, and Tonto Trail. Alternatively, the commenter recommended that the corridor be closed for part of the year or that traffic levels be restricted in the corridor.

SFAR 50-2 established the Dragon Corridor in the location recommended by DOI, with minor changes to the configuration of the corridor for air navigation purposes. Under the provisions of Pub.L. 100-91, the FAA could not place the corridor in a location different than that recommended by DOI for reasons other than aviation safety, including environmental reasons. Limitations on the use of the corridor were not recommended by DOI, and the FAA does not believe that the imposition of additional restrictions are warranted prior to completion of the 2-year study mandated by Pub.L. 100-91.

However, the National Park Service has requested that the 4-mile-wide corridor at 10,500 feet MSL and above be altered to coincide with the alignment of the lower, 2-mile-wide portion of the corridor between Dragon Butte and Cocopa Point. The original alignment of the upper portion is on a radial off the Page Very High Frequency Omni Range (VOR), to assist transient pilots in navigation through the area. In September 1988, an FAA flight check indicated that the Page VOR signal could not be

received below 12,500 feet MSL in the corridor. Because the VOR signal cannot be received in a substantial part of the upper corridor, the FAA believes there is no reason to continue the separate alignments of the upper and lower portions of the corridor. Accordingly, the agency is simplifying the entire corridor to align both the upper and lower portions between the Dragon Butte and Cocopa Point. The width of the corridor at 10,500 feet MSL and above will remain 4 nautical miles.

After the close of the comment period, the Truxton Canyon Agency of the Bureau of Indian Affairs, U.S. Department of the Interior, submitted comments on behalf of the Hualapai Indian Tribe. The Hualapai reservation occupies extensive lands south of the Colorado River adjacent to the Grand Canyon National Park, and the reservation is partly within the SFRA.

The Hualapai Tribe has established a landing strip on the reservation in the west canyon area, on a plateau south of the canyon rim. The current status of the landing strip is private use, although it is the tribe's intention that the airport eventually be accessible to transient pilots to fly in for shopping and tours of the reservation. Because the airport is located in the special flight rules area, and below the minimum flight altitude for the western sector of the SFRA, transient pilots cannot use the airport without special authorization in writing from the FAA Flight Standards District Office. The tribe has complained that this unacceptably restricts public access to the reservation and interferes with the tribe's economic development plans.

Operations in and out of the Hualapai Reservation airport would have no noise or other environmental impacts on the Grand Canyon National Park or on any noise-sensitive areas of the Grand Canyon. The tribe's request to modify the SFRA to permit unrestricted public access to the airport is supported by the National Park Service as well as the Bureau of Indian Affairs. Accordingly, the FAA is revising the southern boundary of the SFRA in the west canyon area to establish a corridor to the Hualapai Reservation airport. Access to the airport will be from the south, and operations at the airport will not be permitted to cross the canyon rim.

*Amendment to SFAR 50-2*

In consideration of the comments received in response to the request for comments contained in SFAR 50-2, the FAA is adopting an amendment to Special Federal Aviation Regulation (SFAR) 50-2 to:

1. Revise the boundary of the SFRA to provide a corridor for unrestricted access to the airport on the Hualapai Reservation, located south of the canyon rim in the west canyon area.

2. Revise the configuration of the Dragon Corridor to center the upper portion, beginning at 10,500 feet MSL, on the centerline of the lower portion.

This rule is effective less than 30 days after publication in the *Federal Register*, because it relieves a restriction contained in the earlier rule and because an effective date coincident with the effective date of the new Las Vegas Sectional Aeronautical Chart will promote safety.

*Environmental Review*

An environmental assessment of SFAR 50-2 and Finding of No Significant Impact have been placed in the rules docket. This amendment does not alter the conclusions in that document.

*Economic Evaluation*

Because the economic impact of this amendment is so minimal, a regulatory evaluation is unnecessary. For the same reason, the FAA certifies that the amendment will not have a significant effect on a substantial number of small entities.

For the reasons set forth above, the FAA has determined that this proposed amendment (1) is not a major rule under Executive Order 12291, and (2) is not considered significant under Department of Transportation Regulatory Policies and Procedures (44 FR 11024; February 26, 1979).

*Federalism Determination*

The amendment set forth herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation does not have federalism implications warranting the preparation of a Federalism Assessment.

## ADOPTION OF THE SPECIAL FEDERAL AVIATION REGULATION

For the reasons set out above, the Federal Aviation Administration is amending Part 91 and Part 135 of the Federal Aviation Regulations, 14 CFR Parts 91 and 135, by revising Special Federal Aviation Regulation 50-2 effective April 6, 1989.

The authority citation for Part 91 continues to read as follows:

*Authority*: 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421, 1422 through 1431, 1471, 1472, 1502, 1510, 1522, and 2121 through 2125; Articles 12, 29, 31, and 32(a) of the Convention on International Civil Aviation (61 Stat. 1180); 42 U.S.C. 4321 *et seq.*; E.O. 11514; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).

## Special Federal Aviation Regulation 50-2

## Special Flight Rules in the Vicinity of the Grand Canyon National Park, AZ

**Section 1.** *Applicability.* [This rules prescribes special operating rules for all persons operating aircraft in the following airspace, designated as the Grand Canyon National Park Special Flight Rules Area:

That airspace extending upward from the surface up to but not including 14,500 feet MSL within an area bounded by a line beginning at lat. 36° 09′30″ N., long. 114° 03′00″ W.; northeast to lat. 36° 14′00″ N., long. 113° 09′50″ W.; thence northeast along the boundary of the Grand Canyon National Park to 36° 22′55″N., long 112° 52′00″W.; to lat. 36° 30′30″N., long 112° 36′15″W. to lat. 36° 21′30″N., long 112° 00′00″W. to lat. 36° 35′30″N., long. 111° 53′10″W. to lat. 36° 53′00″N., long. 111° 36′45″W. to lat. 36° 53′00″ N., long. 111° 33′00″ W.; to lat. 36° 19′00′ N., long. 111° 50′50″ W.; to lat. 36° 17′00″ N., long. 111° 42′00″ W.; to lat. 35° 59′30″ N., long. 111° 42′00″ W.; to lat. 35° 57′30″ N., long. 112° 03′55″ W.; thence counterclockwise via the 5 statute mile radius of the Grand Canyon Airport airport reference point (lat. 35° 57′09″ N., long. 112° 08′47″ W.) to lat. 35° 57′30″ N., long. 112° 14′00″ W.; to lat. 35° 57′30″ N., long. 113° 11′00″ W.; to lat. 35° 42′30″ N., long. 113° 11′00″ W.; to 35° 38′30″ N; long. 113° 27′30″W; thence counterclockwise via the 5 statute mile radius of the Peach Springs VORTAC to lat. 35° 41′20″N., long. 113° 36′00″ W; to lat. 35° 55′25″ N., long. 113° 49′10″ W.; to Lat. 35° 57′45″ N., 113° 45′20″ W.; thence northwest along the park boundary to lat. 36° 02′20″ N., long. 113° 50′15″ W; to 36° 00′10″ N., long. 113° 53′45″ W.; thence to the point of beginning.]

**Section 2.** *Definitions.* For the purposes of this special regulation:

"Flight Standards District Office" means the FAA Flight Standards District Office with jurisdiction for the geographical area containing the Grand Canyon.

"Park" means the Grand Canyon National Park.

"Special Flight Rules Area" means the Grand Canyon National Park Special Flight Rules Area.

**Section 3.** *Aircraft operations: general.* Except in an emergency, no person may operate an aircraft in the Special Flight Rules Area under VFR on or after September 22, 1988, or under IFR on or after April 6, 1989, unless the operation—

(a) Is conducted in accordance with the following procedures:
NOTE: THE FOLLOWING PROCEDURES DO NOT RELIEVE THE PILOT FROM SEE-AND-AVOID RESPONSIBILITY OR COMPLIANCE WITH FAR 91.79.

(1) Unless necessary to maintain a safe distance from other aircraft or terrain—

(i) remain clear of the areas described in Section 4; and

(ii) remain at or above the following altitudes in each sector of the canyon:

Eastern section from Lees Ferry to North Canyon and North Canyon to Boundary Ridge: as prescribed in Section 5.

Boundary Ridge to Supai Point (Yumtheska Point): 10,000 feet MSL.

Supai Point to Diamond Creek: 9,000 feet MSL.

Western section from Diamond Creek to the Grand Wash Cliffs: 8,000 feet MSL.

(2) Proceed through the four flight corridors described in Section 4 at the following altitudes unless otherwise authorized in writing by the Flight Standards District Office:

| Northbound | Southbound |
|---|---|
| 11,500 or | 10,500 or |
| 13,500 feet MSL | 12,500 feet MSL. |

(b) Is authorized in writing by the Flight Standard District Office and is conducted in compliance with the conditions contained in that authorization. Normally authorization will be granted for operation in the area described in Section 4 or below the altitudes listed in Section 5 only for operations of aircraft necessary for law enforcement, firefighting, emergency medical treatment/evacuation of persons in the vicinity of the Park; for support of Park maintenance or activities; or for aerial access to and maintenance of other property located within the Special Flight Rules Area. Authorization may be issued on a continuing basis.

(c) (1) Prior to November 1, 1988, is conducted in accordance with a specific authorization to operate in that airspace incorporated in the operator's Part 135 operations specifications in accordance with the provisions of SFAR 50–1, notwithstanding the provisions of Sections 4 and 5; and

(2) On or after November 1, 1988, is conducted in accordance with a specific authorization to operate in that airspace incorporated in the operator's Part 135 operations specifications and approved by the Flight Standards District Office in accordance with the provisions of SFAR 50–2.

(d) Is a search and rescue mission directed by the U.S. Air Force Rescue Coordination Center.

(e) Is conducted within 3 nautical miles of Whitmore Airstrip, Pearce Ferry Airstrip, North Rim Airstrip, Cliff Dwellers Airstrip, or Marble Canyon Airstrip at an altitude less than 3,000 feet above airport elevation, for the purpose of landing at or taking off from that facility. *Or*

(f) Is conducted under an IFR clearance and the pilot is acting in accordance with ATC instructions. An IFR flight plan may not be filed on a route or at an altitude that would require operation in an area described in Section 4.

**Section 4.** *Flight-free zones.* Except in an emergency or if otherwise necessary for safety of flight, or unless otherwise authorized by the Flight Standards District Office for a purpose listed in Section 3(b), no person may operate an aircraft in the Special Flight Rules Area within the following areas:

(a) *Desert View Flight-Free Zone.* Within an area bounded by a line beginning at Lat. 35°59′30″N., Long. 111°46′20″W.; to 35°59′30″N., Long 111°52′45″W.; to Lat. 36°04′50″N., Long 111°52′00″W.; to Lat. 36°06′00″N., Long. 111°46′20″W.; to the point of origin; but not including the airspace at and above 10,500 feet MSL within 1 mile of the western boundary of the zone. The area between the Desert View and Bright Angel Flight-Free Zones is designated the "Zuni Point Corridor."

(b) *Bright Angel Flight-Free Zone.* [Within an area bounded by a line beginning at Lat. 35°59′30″N, Long 111°55′30″W.; to Lat 35°59′30″N, Long 112°04′00″ W.; thence counterclockwise via the 5-statute-mile radius of the Grand Canyon Airport point (Lat. 35°57′ 09″ N., Long 112°08′47″W.) to Lat 36°01′30″N., Long. 112°11′00″W.; to Lat. 36°06′15″N., Long. 112°12′50″ W.; to Lat. 36°14′40″N., Long. 112°08′50″ W.; to Lat. 36°14′40″N., Long. 111°57′30″W.; to Lat. 36°12′30″N., Long. 111°53′50″W.; to the point of origin; but not including the airspace at and above 10,500 feet MSL within 1 mile of the eastern boundary between the southern boundary and Lat. 36°04′50″N. or the airspace at and above 10,500 feet MSL within 2 miles of the northwest boundary. The area bounded by the Bright Angel and Shinumo Flight-Free Zones is designated the "Dragon Corridor."]

(c) *Shinumo Flight-Free Zone.* [Within an area bounded by a line beginning at Lat 36°04′00″N., Long. 112°16′40″W.; northwest along the park boundary to a point at Lat. 36°11′45″N., Long. 112°32′15″W.; to Lat. 36°21′15″N., Long. 112°20′20″W.; east along the park boundary to Lat. 36°21′15″N., Long. 112°13′55″W.; to Lat. 36°14′40″N., Long. 112°11′25″W.; to the point of origin. The area between the Thunder River/Toroweap and Shinumo Flight Free Zones is designated the "Fossil Canyon Corridor."]

(d) *Toroweap/Thunder River Flight-Free Zone.* Within an area bounded by line beginning at Lat. 36°22′45″., Long. 112°20′35″W.; thence northeast along the boundary of the Grand Canyon National Park to Lat. 36 15′ 00″N., Long. 113°03′15″W.; to Lat 36°15′00″N., Long. 113°07′10″W.; to Lat. 36°10′30″N., Long 113°07′10″ W.; thence east along the Colorado River to the confluence of Havasu Canyon (Lat. 36°18′40″N., Long. 112°45′45″W.;) including that area within a 1.5-nautical-mile radius of Toroweap Overlook (Lat. 36°12′45″N., Long. 113°03′30″W.); to the point of origin; but not including the following airspace designated as the "Tuckup Corridor": at or above 10,500 feet MSL within 2 nautical miles either side of a line extending between Lat. 36°22′55″N., Long 112°48′50″W. and Lat. 36°17′10″N. Long. 112°48′50″W.; to the point of origin.

**Section 5.** *Minimum flight altitudes.* Except in an emergency or if otherwise necessary for safety of flight, or unless otherwise authorized by the Flight Standards District Office for a purpose listed in Section 3(b), no person may operate an aircraft in the Special Flight Rules Area at an altitude lower than the following:

(a) Eastern section from Lees Ferry to North Canyon: 5,000 feet MSL.

(b) Eastern section from North Canyon to Boundary Ridge: 6,000 feet MSL.

(c) Boundary Ridge to Supai (Yumtheska) Point: 7,500 feet MSL.

(d) Supai Point to Diamond Creek: 6,500 feet MSL.

(e) Western section from Diamond Creek to the Grand Wash Cliffs: 5,000 feet MSL.

**Section 6.** ***Commercial sightseeing flights.***

(a) Notwithstanding the provisions of Federal Aviation Regulations § 135.1(b)(2), nonstop sightseeing flights that begin and end at the same airport, are conducted within a 25-statute-mile radius of that airport, and operate in or through the Special Flight Rules Area during any portion of the flight are governed by the provisions of Part 135.

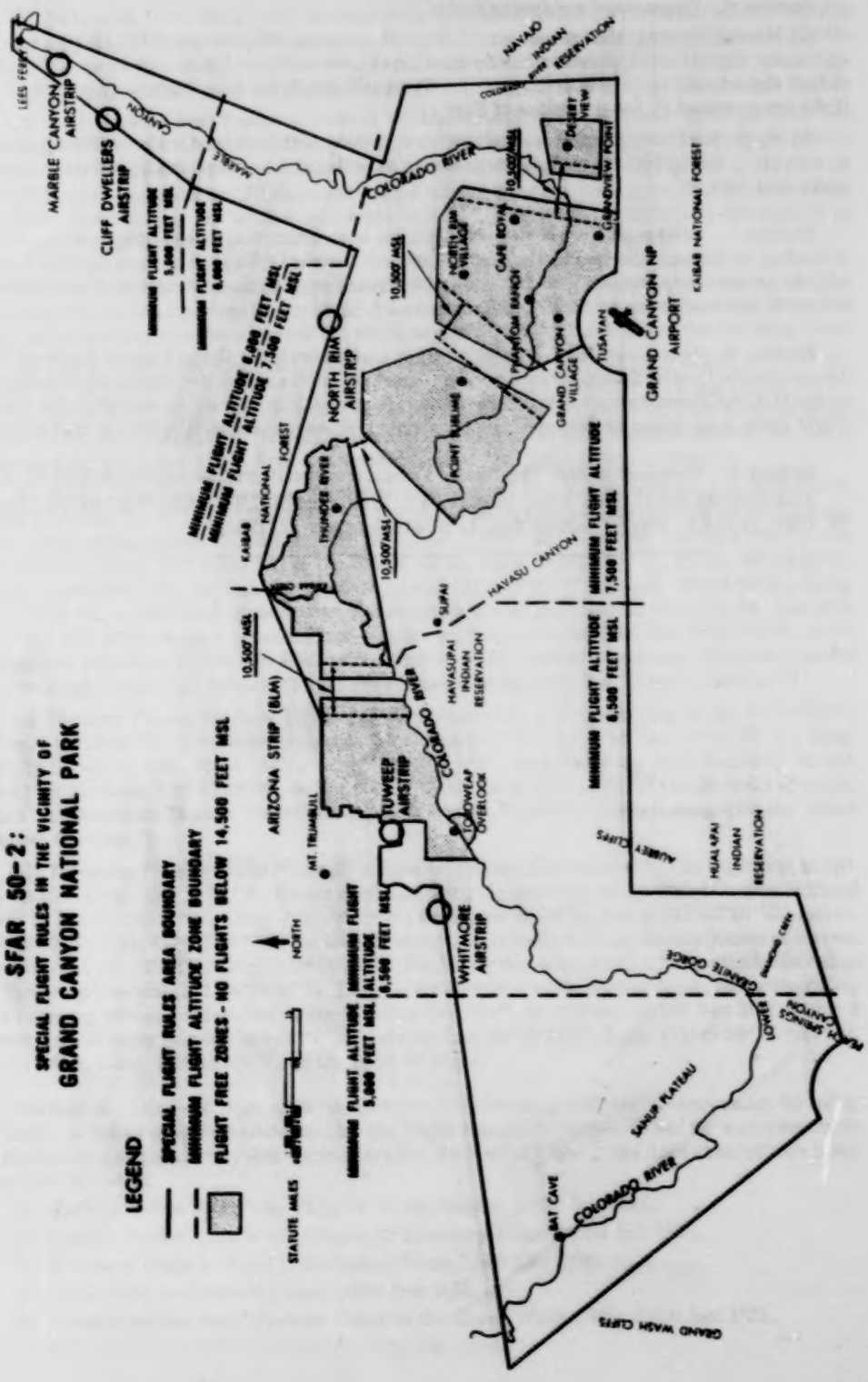
(b) No person holding or required to hold an operating certificate under Part 135 may operate an aircraft in the Special Flight Rules Area except as authorized by operations specifications issued under that part.

**Section 7.** ***Minimum terrain clearance.*** Except in an emergency, when necessary for takeoff or landing, or unless authorized by the Flight Standards District Office for a purpose listed in Section 3(b), no person may operate an aircraft within 500 feet of any terrain or structure located between the north and south rims of the Grand Canyon.

**Section 8.** ***Communications.*** Except when in contact with the Grand Canyon National Park Airport Traffic Control Tower during arrival or departure or on a search and rescue mission directed by the U.S. Air Force Rescue Coordination Center, no person may operate an aircraft in the Special Flight Rules Area unless he monitors the appropriate frequency continuously while in that airspace.

**Section 9.** ***Termination date.*** This Special Federal Aviation Regulation expires on June 15, 1992.

*Authority:* 49 U.S.C. 1303, 1348, 1354(a), 1421, and 1422; 16 U.S.C. 228g; P.L. 100-91, August 18, 1987; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).]

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